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Our Lethargic Profession: How Can We Wake It Up?

THERE is an old adage, to the effect that it is useless to lock the barn-door after the horse is stolen. We of the medical profession are much given to complaining of the difficulty of holding our own in the struggle for existence; but year after year we neglect getting a lock for the door, and, if some thoughtful person or organization, intent on our protection, *does* provide the lock for us, we promptly throw away the key. In other words, as a profession, we have no satisfactory organization for self-defense. We are as helpless as is a baby with its first rattle.

In all that concerns our material welfare, the amount of lethargy in our profession, the astounding indifference with regard to the future, the absence of fighting spirit, the willingness to submit rather than stand up in defense of our rights is something that is hard for the ordinary nonprofessional citizen to understand. The truth is, of course, that every individual doctor is keenly alive to our critical situation and wants to do something to better it. But what can he do alone, and through what medium can he act?

The labor unions, for instance, are aggressively active without remission. They realize that the wage is the essential thing. They stand primarily for the defense of the rights of the individual, and they secure these rights by mass action. The fundamental idea of the whole scheme of organized labor is, *to secure adequate compensation for the work they do.* And they are succeeding, because they all stick together and fight their battles as a unit. The fact that they often employ crude, cruel, and dangerous methods, that they frequently are unjust in their dealings with capital and with nonunion labor, and that they resort to force to secure their ends does not offset the really vital and economically essential result, that they have made it possible through their organized effort for their members to live in comfort.

To bring this problem nearer home, we may cite the experience of the druggists. These men have effected a national organization the special purpose of which is, to foster the commercial welfare of its members. We have very good reason to respect this organization, for we have frequently crossed swords with it, and we know the singleness of purpose and the determination with which its leaders work. We do not condemn this association; on the contrary, we rather admire it. The druggists know what they

want, and they go after it with an energy that must command the admiration of any good doctor who has a sense of humor at all; for these men are determined either to get the doctor's business—or his scalp!

Contrast with this activity the lethargy so characteristic of the medical profession. At the meetings of the different state medical societies, it is only rarely that the very vital problem of making a living is discussed at all. The machinery for legislative defense is rusty, out of date, entrusted to men who do not understand the work or its importance, and usually comes to nothing. Of course, there are exceptions. In Illinois, for instance, we have had an excellent legislative committee which has done splendid work. Other states do not fare quite so well.

In New York, the legislature recently enacted a strong narcotic law, the Boylan bill, a measure which profoundly affects the interests of the medical profession. This bill practically was forced through upon the initiative of a very wealthy woman, Mrs. W. K. Vanderbilt. It contained features that were peculiarly obnoxious to doctors as well as to druggists. The latter, through their various organizations of jobbers and retailers, were strongly represented at the hearings in the legislative committee, and, thus, were able to secure valuable trade concessions; but—so far as we have been able to ascertain—no official of the state medical society took any interest in this matter whatever. The writer has searched the columns of *The New York State Medical Journal* for any editorial discussion of this important measure, but in vain, albeit it is of profound interest and concern to physicians, and particularly so to those practicing in the country.

All of which brings us to the moral of this editorial. *We doctors must get together*. Either we must prepare to fight for our rights—and that means for the privilege of earning an honest livelihood—or else many of our number are bound to be starved out. Thousands of physicians are perilously near the latter alternative already. It's fight, or die. Which shall it be? If we decide to fight, then the question is, How shall we go about it to organize for that purpose?

In one of the latest issues of *The Medical World*, Brother Taylor suggests that it may become necessary to organize an association of dispensing physicians for self-defense. To show the need for organizing along these lines, he calls attention to some of the various legislative attempts that have come to light during the last year, designed to prevent the doctor from securing drugs and himself dispensing these remedies. These efforts have been reviewed in these pages, so we need not relate here what has been done in this direction; neither do we now need suggest what may be undertaken during the 1914–'15 legislative term to throttle the dispensing physician, with more than forty state legislatures in session.

Yet, while we admit the need, we, ourselves, doubt the wisdom of forming a special society to deal with the dispensing-problem alone. For, this is only one phase of a very big subject. On the other hand, we should be prepared to grapple with everything that concerns our economic welfare. Can we do this best by a special organization planned to deal only with our economic problems, or can we secure better results, in the long run, by acting through the channels already in existence?

We frankly confess that we are not prepared to answer this question; however, it is such an important one that we invite every physician, whether he be a regular reader of this journal or not, to express his opinion, through our pages, upon this topic.

What we are anxious to do is this: to get so many opinions that it may be possible to elaborate from them collectively a concrete plan for future action. Let us throw off our lethargy and show that we are awake at last. Tell us what you think about this matter. Doctor write us fully. Don't hold back for someone else to do the thinking and the work that has been the trouble. Give us *your* ideas—*your* place. Everybody boost!

What we need in this country is governmental control of all jokes, with a decisive, definitive recognition that guilt is personal.—William Marion Reedy.

SINGLE REMEDIES AND PRESCRIPTIONS

As a general rule, we have urged our readers to employ single remedies rather than combinations. The primary reason is that very few of us (and we acknowledge the truth of this as applying personally) know even enough about the action of our remedies when taken alone; and when we venture into the combinations we forsake the firm ground of knowledge and embark on the sea of chance.

The use of single remedies with a definite object in view makes for precision in therapeutics. The ideal is a perfectly comprehended pathologic state, or disorder of physiologic function, a knowledge of a remedy that

exactly counterbalances the disorder, and its administration until physiologic balance has been restored. This means study along these three lines, and the development of a true art of medicine, a rational, scientific therapeutics. At the present rate of progress it will be many years before the medical profession, as a mass, has mastered this simple proposition.

But when that has been accomplished we may look for a still higher development in our art, from the rational, scientific combination of remedies even when the need to be met is single and uncomplicated. Take, for instance, the simple demand for the relief of pain. Let us disarm crude criticism at the outset by assuming that we know our A B C's, and that we had met the "removal of the cause" indication.

To attack pain directly, we may have three roads, as we apply remedies to lessen sensibility at the periphery—the seat of the pain or at the cerebral centers or the conducting cords. If any one of these is benumbed by a sufficient dose of the appropriate remedy, the pain is no longer felt. But, instead of using a full dose of either, we may take a minimum dose of each of the three, and we get a greater proportional effect than from a full dose of either.

This phenomenon is easy to explain: Lessen the sensitiveness of the peripheral nerve-ends, and they respond less acutely to pain-inducing irritants. Lessen the conductivity of the nerve-cords, and they transmit sluggishly the weakened irritation. Lessen the receptive acuteness, and a slighter impression is made on the transmitting cords. Diminish their conductivity a little, and the impression may scarcely reach the brain-cells at all or, if it does, the slight lowering of their acuteness suffices that they do not catch the impression at all.

An excellent illustration may be seen when a combination of cathartics is employed. Of them, we know that some increase peristalsis, others increase secretion, some act on the musculature, others on the nerves, some probably on the peripheric ends, others on the cerebrospinal centers. Some exert their maximum power on the small intestine, others on the colon, others on the rectum.

Nature is as exact in the incidence of disease as is the systematist in his description. We may describe endocarditis, pericarditis, but who ever saw a case of the latter where one or both surfaces did not participate? The center of an enteritis may be in the ileum, but it surely extends to some extent upward and downward along the gut. A fracture of bone is an impossibility without some injury of the surrounding tissues.

The habit of associating allied remedies, therefore, is founded on something more than the shotgun, something-may-hit system. We may not know exactly why one combination succeeds better than any one of its components—still, a thing may be true even if we cannot explain it. Sometimes the chemist helps us out, as by showing that all the soothers of the urinary tract contain the same principle, arbutin. But this is exceptional. The unpalatable truth is that in most of the "happy hits" we make in our combinations we are not prepared to defend them on known experimental data as to the precise action of each ingredient; yet, we know they have succeeded, for all that.

There will have to be a very much extended revival of interest in drugs before their scientific study shall have been completed. But every study made clinically, under proper conditions, has its value.

If I had to live my life again, I would have made it a rule to read some poetry and listen to some music at least once every week; for perhaps the parts of my brain now atrophied would thus have been kept active through use. The loss of these tastes is a loss of happiness, and may possibly be injurious to the intellect, and more probably to the moral character, by enfeebling the emotional part of our nature.—Charles Darwin.

"TURN BACK OR GO ON!"

Yes, when I penned that editorial for the March issue I knew somebody would jump right up and cry out in meeting that it was conceited to write such stuff; at least I hoped they would—and they did. Naturally, for it was conceited. Nevertheless, I meant it, every word of it. Only, I wrote as an editor, impersonally. When I claimed precedence for the drug student I did so, not for myself alone, but for the student of drugs in general —for the staff of CLINICAL MEDICINE, for Shaller, French, Servoss, Smith, Henry Beates, Thomas J. Mays, Rogers of Calcutta, V. E. Lawrence, Howle, Coleman, and every one of that host who have been studying and applying drugs under modern scientific conditions.

Squarely at the head of that list I place W. C. Abbott, without whose tireless energy and undauntable persistence and robust, unswerving faith, not a tenth part of the real progress could have been made.

I did not write in defense of drug-medication, but of the modern method, of pure uniform drugs, ascertaining their precise action and applying them in accordance with the

indications. Curiously enough, one of the most torrid roasts received came from a man who totally misapprehended the points of my editorial. I know this, because I know him well and knows that he knows better. But in his letter he brings up four points as at issue between us; and these are, the misuse of opium, alcohol, and calomel, and the value of preventive medicine.

Surely, my old friend was born with a chip on his shoulder. I have taken pains in very elaborate papers to urge that opium and alcohol should not be employed as medicines, with such reckless disregard of definite indications, and that not because of any moral or sociologic objection, but simply because in the majority of our cases there are far better remedies that more exactly fit the needs, and which are *safe* as well as effective.

The alleged misuse of calomel is a tradition. It dates back to the days of our grandfathers. Is there a man living who has really seen a case of the disastrous results of salivation as depicted by Samuel Thomson? Were the cases of permanent injury ever more than exceptional even in the days when the doctors ordered salivation until a quart or two of saliva had poured out?

Today calomel is recognized as a very useful remedy, and rarely do we find a competent, experienced practician who does not use it as an excellent key with which to unlock the gates of excretion. True, we usually administer a grain in divided doses, instead of a tablespoonful every quarter-hour; but that is now the customary method of dosage for many drugs.

As to preventive medicine! Who, but I, what journal but CLINICAL MEDICINE, had the courage first to advocate transforming the family doctor into a sanitarian, salarying him instead of feeing, and calling upon him to keep the people well instead of curing them—when he could? Not a writer or a journal has come out boldly in recognition of the truth as to our crude, obsolete, antiquated method of paying only when too ill to earn the doctor's fees, making it worth his while to keep a body sick, starving the doctor out when he teaches the community how to keep well. Not one other has proposed a definite, reasonable, practicable plan of meeting the innumerable quack delusions and reducing even the Christian scientist to inocuous desuetude by this strict, scientific business method.

You'll have to show me some more.

Am I correct as to the dense therapeutic ignorance of the body of the profession or, at any rate, of the prominent men in it? Just try out the biggest doctors on some of the elementary principles of applied therapeutics, such as the increase of nutrition consequent upon the use of the vasorelaxants; the power of atropine to increase capillary attraction; the action of strychnine in enhancing the effect of any other drug administered with it, by increasing the vital reaction against it; the multiplication of power, instead of mere addition, often secured by combining different drugs; the leukocytosis following full doses of pilocarpine and its connection with the control exerted by this remedy over sthenic erysipelas. If your man is able to discuss these trifling matters intelligently, try him on something a little less elementary.

However, our therapeutic aggressiveness is not intended to be cocksureness. While we know that we are often (if not always) right, we also know that we are sometimes wrong. We want to stir you up—get you to thinking—get you to trying some of these things for yourself. We know that we shall all benefit; also, that many of you can teach us more than we can teach you. Our difficulty is to get you to do it. Come on, now!

The signs is bad when folks commence
A-findin' fault with Providence,
And balkin' 'cause the earth don't shake
At ev'ry prancin' step they take.
No man is grate til he can see
How less than little he would be
Ef stripped to self, and stark and bare
He hung his sign out anywhare.

—James Whitcomb Riley.

THE NEW SECRETARY OF THE STATE BOARD

The appointment by the Governor of Dr. C. StClair Drake, of Chicago, to the office of Secretary of the Illinois State Board of Health, is an instance of distinction conferred upon an already distinguished exponent of medical journalism—for as such Dr. Drake must be regarded in his relations to the Chicago Health Department. The prime service which he has for many years so ably rendered that Department has been in the line of publicity. He has not merely put the Chicago Health Department on the map, in the sense of giving publicity to its excellent work and ideals, but, what is of far greater importance, he has given currency to its practical purposes and efforts by bodying them forth and popularizing them with his trenchant and virile pen in the pages of *The Bulletin*. And all of this comes broadly under the head of medical journalism.

We hardly know whom most to congratulate upon the appointment. As a Chicago institution, we are sorry to see him go out of our own Health organization. As the representative of a larger and more cosmopolitan profession, we rejoice to see his proven abilities given a wider range for their public employment. And as a medical journalist, we are proud to see this distinction and opportunity for service go to one of our own fraternity.

The best traditions make the best rebels. There is nothing paradoxical in this. No tradition is perfect. The best brings only a passing period of peace or triumph or stable equilibrium: humanity rests for a moment, but knows it must travel further; to rest forever would be to die. A tradition is generally at its best, not when it is universally accepted, but when it is being attacked and broken. And, in a sense, the greatest triumph any tradition can accomplish is to rear noble and worthy rebels.—Gilbert Murray.

MEDICAL LEGISLATION AND PROFESSIONAL DEFENSE

In the first editorial this month, the inertia of our profession with regard to legislation vitally affecting its interests has been critically discussed. Now, in a recent number of *The New York Medical Journal*, I find an article by Dr. Charles F. Pabst, in which he relates some of his experience with law makers and law making in New York. Doctor Pabst refers specifically to a bill legalizing the practice of the naturopaths and chiropractics in that state; at the time the article was written, this bill had passed the Senate and the Assembly, and was awaiting the signature of Governor Glynn. We are glad to state, as an addendum to Doctor Pabst's article, that Governor Glynn vetoed this bill; although its failure to become a law was not due to any activity on the part of the medical profession of New York.

Doctor Pabst's experience has been the same as that of every person who has tried to arouse the medical profession to the danger of proposed legislation. "Many physicians," he declares, "when asked to oppose this bill, declared that definite action was unnecessary, as the bill never would pass." And, yet, it did pass.

This is exactly the kind of answer that I have received a hundred times from doctors who have been called upon to oppose legislation calculated to prohibit them from dispensing their own medicines—"You can never prevent the doctors from carrying their own drugs!" Nevertheless, such bills are passing.

Let us quote from Doctor Pabst's article something of the methods employed in securing legislation, and therefrom learn what physicians usually do to prevent it. This is what he writes:

When a bill is introduced in the legislature, it is referred to a certain committee, and a day is set for the hearing. How many physicians know what a hearing of this kind means to them? It means that an opportunity is offered to those who oppose a bill to voice their objections and suggest amendments, and that those who favor the measure should be represented in order to protect their interests and defend the bill against unjust attacks by the opposition. If this opoprtunity is neglected, it is no time to complain after a measure has become a law; and, since physicians usually begin to protest about the time a law goes into effect, it is not to be wondered at that the commercial world smiles at the medical man's lack of knowledge regarding the simplest rules of legislation.

For the past year, I have urged the necessity of a law regulating the sale and manufacture of bichloride of mercury, and for that reason I went to Albany and addressed the Senate Codes Committee at a hearing which was held on the bichloride bill. Not one medical society was officially represented. A dozen energetic physicians were on hand, simply as individuals, and if they had not been present, no one would have answered the charge which was made by a drug representative, accusing physicians of being the cause of the majority of bichloride deaths by leaving loose bichloride tablets at the homes of patients.

When a measure is introduced, relating to the medical profession, the senators naturally expect that physicians will be present at the hearing, to suggest necessary amendments. If representatives of the medical societies fail to appear, it places the profession in a bad light before our own legislators. There is but one way to meet this new condition of affairs. Every medical society should maintain a well-paid and efficient legislative committee, which should receive the active cooperation of every member. Physicians will then become interested and informed upon the important subject of legislation, thereby conserving the interests of the medical profession and at the same time keeping in line with the march of progress.

We sincerely hope that every reader of CLINICAL MEDICINE will take these remarks to heart. We want to remind you again—every one of you—that next year more than forty legislatures will be in session, and that many bills profoundly affecting our professional welfare will be introduced. Unless we are thoroughly alive to the situation it is safe to say that some bills likely to impair the physician's ability to serve his patients quickly and efficiently will become law.

TO THE MEDICAL GRADUATE

I feel like saying a word to that great throng of medical graduates who during the coming month will troop down the steps of their alma mater, with their hard-earned

sheepskins in their hands, and out into the world to earn their living.

To earn their living. Ay, there's the rub! For, this is the harsh, mundane truth that will force itself upon these ardent, idealistic young minds on the "day after." And here is where their real problem will begin.

I have no idea at all that anything I may say upon the subject will seriously influence any young man or woman who now is facing this life-problem—at all events, not directly. Advice is cheap, and is held cheaply. Young people have a way of working out such questions for themselves, in their own fashion, regardless of counsel; and it is just as well they should. No man can work out another's problems for him. Each man must live his own life, and make his own career, and the responsibility of choice and decision is, ultimately, with himself.

Nevertheless, we older men would not, for that reason, stand aloof, like the gods on Olympus, "careless of mankind." I, for one, can not—the memory of my own beginning is too green in my mind and heart—and, so, I am impelled to offer a word or two of friendly counsel, even though cognizant of the slight prospect of its being accepted. Perchance, after all, my words may help indirectly to influence the decision of some one seeing this, and to shape someone's course for good.

The problem confronting the beginner is not so simple or so straightforward as it used to be. In earlier days, there was but one thing to do, namely, to hang out one's sign as "Physician and Surgeon," ready for any and every emergency that might come along, and then sit down to wait for "it" to come. Those were the halcyon days of the family doctor.

Nowadays the problem is far more complex—so many possible courses are open to the would-be medical practitioner. Thus, a vast difference has arisen, for instance, between city practice and country practice: shall the young man locate in the city or in the country? Specialism has developed apace: shall he do general work or specialize—and, in what? Institutional medicine has opened up a new wide field: shall he start in private practice or connect himself with some medical institution? These are a few of the major conundrums.

As for my own view of the matter, specialism and institutionalism I consider a little overdone. There will be plenty of men and women whose course will inevitably lean, by force of circumstance, toward these specific phases of medical work, without any new graduate deliberately choosing them. As a matter of fact, I feel that the time is ripe for a return to the old state of "general practice," carrying back into that state all the marvelous fruits of specialism and institutional medicine of which the modern medical student has reaped the benefit.

If this modern graduate can, in some way, bear in his person and in his training all the magnificent fruits of twentieth-century science and technic which the specialist and the institution have brought to maturity, and through his own individuality can make them current in general and family practice, then, indeed, he not only will solve the problem of his own career, but he will help to turn the tide of medical progress into those broad channels by which alone it can effectually benefit mankind.

How, then, shall the modern graduate carry out this idea? The answer is, by putting himself in the way of acquiring all the advantages of modern specialism and organization, and then putting himself equally directly in the way of translating them into general practice.

Consequently, I suggest that the young graduate, before he undertakes his life-work, make himself thoroughly proficient in every form of medical and surgical work that he is likely to encounter, either by attendance on a postgraduate course, or by a hospital interneship, or by associating himself with some able and busy practitioner. Having, by such means, made himself thoroughly and broadly capable, self-reliant, and experienced, let him then locate in some small town, or even in some good rural district, and set himself to take care of everything that comes along; himself fitting up a small hospital or sanitarium, if necessary, or arranging with an already existing one for the care of his surgical cases, then referring to the specialist only those exceptional cases for which his own resources are inadequate, and, hence, legitimately belong to the specialist.

Such is my advice to the graduate of 1914, which, as I said at the outset, is gratuitous, and therefore little likely to be taken. Still, I believe it to be sound advice, in accordance with the signs of the times, and morally certain to bring success and prosperity to him who may deign to follow it.

DON'T FOLLOW THIS ADVICE

In our ultra-good journals we come across the advice not to pay any attention to literature received from manufacturing houses. We are told to throw it at once in the waste-basket. Don't

you do it. With all due modesty, I believe I may claim that I know as much of materia medica and therapeutics as any practicing physician in this country, perhaps as much as any member of the Council, and still I glance through every piece of advertising literature, for I receive many useful hints from them, many a useful new product or combination has been brought to my attention thereby, and I frankly state that I am indebted to the various great manufacturing houses for many a useful suggestion which was of great benefit to my patients.

Of course any physician with brains can see at once whether a piece of literature belongs to the quack or nostrum variety or contains a promise of something really valuable. It does not take much time to glance through a pamphlet or circular. No physician is too busy for that. Yes, if some of our doctors were not such prigs they would be more successful in the treatment of their patients. Moral: Don't be a prig.

With the above, as well as with many other good things said by Robinson in his inimitable *Critic and Guide*, we heartily agree.

To his pointed "don't be a prig" we would add, in emphasis: Do just what the ultra and "too-utterly-too-too's" advise you not to do, and for the very reasons given.

There is the man who measures everyone by his own erroneous conception of himself. In a position of authority he sets himself up as a sort of tin god to be adored and worshipped. He is extremely jealous of his authority. He wants to "know it all." He resents suggestions from any one, fearing that to accept them will lower him in the estimate of others. This man is usually prejudiced, narrow and bigoted, and, in dealing with others assumes a patronizing air. In rendering decisions he is apt to show the most unexpected politeness.
—Dr. Katherine M. H. Blackford.

NEW YORK'S NEW NARCOTIC LAW—THE BOYLAN BILL

One of the most drastic measures thus far enacted into law is the socalled Boylan Bill passed by the last legislature of the state of New York and signed by Governor Glynn, which becomes operative on July 1, 1914. In framing this bill and pushing it through the legislature, Mrs. W. K. Vanderbilt, who has recently taken up sociologic work, was very active. The bill as originally presented was opposed by practically all the drug interests in the state. Unfortunately, the organized medical profession was not represented at the public committee hearings, so that, if it is unsatisfactory to the physicians of New York, they have only themselves to blame.

Without going into full details regarding the provisions of this bill, we may say briefly that it prohibits a retail druggist from selling chloral or opium, or any of the salts, derivatives, compounds or preparations of these drugs, except upon the written prescription of a duly licensed physician, veterinarian or dentist. The practitioner is not permitted to write such a prescription except after a physical examination of the patient. The name of the physician, veterinarian or dentist writing the prescription must appear upon the prescription blank, together with his office address, his office hours and telephone number, also the name, age, and address of the person for whom the prescription is intended and the date upon which it was written.

There is one provision to the effect that domestic or proprietary remedies containing small quantities of the prohibited drugs are exempt provided they are "actually sold in good faith as medicines, and not for the purpose of evading the purposes of this article." Thus, for instance, if a proprietary medicine does not contain more than 2 grains of opium, 1-4 grain of morphine, 1-4 grain of heroin, 1 grain of codeine, or 10 grains of chloral, or their salts, to the ounce, it may be sold freely by any druggist to any person. It will at once be observed by every physician that this provision *legalizes* the use by the laity of the narcotic remedies when they occur in patent medicines, at the same time rendering it *illegal for the physician* to prescribe or dispense in tablet, pill or power form the same (or even minimesimal) quantities of narcotics which the druggist can with impunity sell over the counter, without restriction, in the form of patent or proprietary medicines. In other words, the medical profession has been grossly, yes, sinfully, discriminated against.

Under this law, physicians wishing to purchase any of these drugs must first fill out an official order-blank, serially numbered, and in duplicate. Also, every physician, dentist or veterinarian must keep a record of every person to whom he administers or disposes of in any way whatsoever any of the drugs enumerated in this law, and this record must in every instance specify the quantity of the drug employed; and these records must be preserved for a period of five years, and shall always be open for inspection by the proper authorities. It is, further, made illegal for any person to sell or give away to any person, except a duly licensed physician, dentist or veterinarian, any hypodermic syringe or hypodermic needles, except upon the written order of a licensed physician or veterinarian.

Habitual users of habit-forming drugs—unless under the direct care of a licensed practitioner—upon complaint made to a magistrate, after due legal process, shall be committed to a state, county or city hospital

or institution licensed under the state lunacy commission. Finally, any physician, dentist, veterinarian, pharmacist or registered nurse who becomes addicted to the use of any habit-forming drug or drugs will be subject to a revocation of his or her state license and will be prohibited from further performance of the duties of his profession as long as he may be uncured.

This bill certainly is the most severe thus far passed by any state legislature. It puts drastic, and it seems to us unnecessary, strictures upon the medical profession.

We are curious to learn how many New York physicians actually knew anything about this bill while it was being discussed in the legislature. It is patent that the New York State Medical Society took no interest in it.

If such a law is satisfactory to the physicians of the state of New York, we have nothing to say; but to us it seems that bills of such vital importance to the medical profession should be thoroughly discussed by the members of our profession, all their advantages and disadvantages being carefully gone into, before they are permitted to be crystallized into laws. It is plain to us that laws of this kind will work needless—intolerable—hardship, to the sick nore even than to the profession, and we are convinced that equally equally good results could be accomplished without such hardships.

In our miscellaneous department, this issue, read comments on a similar bill introduced in Rhode Island, reprinted from the *Providence Medical Journal*.

Only the ordinary man is put down and out by ordinary difficulties—the other kind sees in a profitable task only the chance to show what kind of stuff he is made of.

—L. C. Ball.

HEALTH FOLLOWS THE FLAG

Apparently we are on the eve of a Mexican war. Whether war comes or not, our troops are in Vera Cruz, which not so many years ago, from a sanitary standpoint, was one of the hell-holes of the earth; yellow-fever was endemic and every nonimmune who went to that city knew that he was likely to come down with the disease at any time. Malaria even now is rampant there—last year 15 percent of the deaths in Vera Cruz were from this cause. Another scourge of that country is amebic dysentery, which has been discussed so frequently in these pages during the last few months. Other prevailing diseases with which our military surgeons will have to deal are cerebrospinal meningitis and typhus, both of which are constantly present in Mexico, and which may become epidemic at any time.

It is gratifying to know that we are now prepared to deal firmly and effectually with these tropical diseases; also with typhoid fever, which caused such a tremendous loss of life among our soldiers during the Spanish-American war. As the Chicago *Tribune* says: "The American army of occupation carries death in one hand and life in the other. Perhaps no body of men is better equipped to kill Mexicans with bullets and to save them from bacilli than the Fifth Brigade under Funston."

It will interest the readers of CLINICAL MEDICINE to learn that the chief of the health department of the American army of occupation is Major Frederick M. Hartsock, whose important contribution upon emetine hydrochloride in dysentery, appearing in the March number of CLINICAL MEDICINE, will be remembered. Joseph Medill Patterson, in an interesting article upon the health campaign already initiated by our men in Vera Cruz, describes Major Hartsock as being "middle-aged, rather bald, hook-nosed, temperamentally a promotor. He could sell shares in seawater gold to a national bank; but the line he carries is health to sick places, with bayonets for letters of introduction." He has served in Cuba, Puerto Rico, China, and the Philippines.

Associated with Major Hartsock in the work of cleaning up Vera Cruz, already a thing well-nigh accomplished, is Dr. G. M. Guiteras, who probably is the greatest yellow-fever expert in the world; which means, says Mr. Patterson, "the greatest mosquito-man, and therefore malaria-man, in the world." Guiteras already has a little army of forty young doctors and assistants who are covering with a thin film of petroleum all the stagnant water in Vera Cruz. These men will eliminate the mosquito, and with the mosquito will go the danger from malaria and yellow-fever. One difficulty which our army sanitarians are having in fumigating infected buildings is, the "open-faced" character of the construction, this making it hard to retain the sterilizing gases. Consequently they are resorting to a liberal application of whitewash.

By the inoculation of our soldiers with the typhoid prophylactic, the danger of an epidemic of typhoid fever has been eliminated. During the fourteen months in which we had 5000 men stationed at Galveston, all of whom were inoculated, there did not occur a single

case of this disease. Contrast this condition with what happened in 1898, when 2600 of our 12,000 men stationed at Jacksonville for four months contracted typhoid fever, and 480 of these died.

Thanks to the discovery of the specific action of emetine hydrochloride in dysentery, we now can safely say that this disease need not be feared in Mexico. Major Hartsock, as the readers of CLINICAL MEDICINE know, is thoroughly familiar with the importance of this valuable drug and prepared to see to it that every man requiring it is promptly treated with this potent agent.

Smallpox even now is endemic in Vera Cruz; but this no longer is a disease feared by our army: our soldiers are all protected against it. The city is being cleaned up as it never has been cleaned before, and as it is likely never to be cleaned again—unless, indeed, our army stays in Mexico; a consummation which, from a health consideration, it must be admitted, is devoutly to be wished.

"It is an effective contrast to see Major Hartsock at mess with his brother officers," says Mr. Patterson, "all in the same brown uniforms, indistinguishable from each other in manner or appearance, and to realize that *they* have come here to kill and *he* to save—and, further to realize that, unless they had come for their purpose, he could not have come for his—and to realize, still further, that within a few years he and Doctor Guiteras will save more lives than the soldiers can take."

It is the knowledge of this fact—and there can be no question that it is a fact—that alone can justify the military occupation of Mexico.

Hard work is better than brilliancy. There is no person of whom I would have greater fear than the brilliant surgeon, and if it fell to my lot to undergo an operation, I should be careful to select a surgeon who is not brilliant.—Sir Frederick Treves.

MATRIMONIAL AGENCIES—WHY NOT?

Just now I have been reading of another arrest of a specimen of that meanest of swindlers, the man who fleeces lonely men and women looking for mates. This man answered advertisements of men seeking wives, using a female name; while, in the case of women desiring husbands, signing the name of a man. From each he managed to secure a small sum, aggregating about one thousand dollars a month, or more. Instances of this kind come into publicity so often that the phenomenon deserves consideration. It points to a serious and easily remediable defect in our social system.

It is not good for man—or woman—to live alone. It is contrary to the policy and well-being of the State. It contributes largely to the gross sum of immorality, to the sacrifice of girlhood, to crime, depravity, dissipation, to all wrongs and evils that beset civilization. Every part of the country is thickly dotted with men who need wives and women who need husbands. Every matrimonial journal finds plenty of patrons, and a constant succession of rascals reap their harvests from these dupes.

The need is glaring; the remedy should not be difficult.

A man in his thirties, steady, temperate, without a bad habit, well bred, and holding a good position, told this writer that he had exhausted all his friends by visits, gone to places of amusement until they sickened him, and actually sat in his rooms evenings and wept for sheer loneliness. Multiply this man by thousands—tens of thousands—and then reflect that there is not a solitary legitimate means of bringing those men into acquaintance with the innumerable women from among whom they might select wives.

The Mormons recognized the evil, and provided the remedy. When a new settlement was made by the followers of Brigham Young, the first two public buildings to rise were the Tabernacle and the dance-hall. At the latter, the young people came together, formed acquaintances, enjoyed the pleasures suitable to their age, and all in a perfectly proper manner under the auspices of their parents, publicly, instead of that surreptitious meeting that is so surely followed by demoralization and disgrace. I am not advocating or condemning dancing; though personally I would rather see the young people waltzing under their parents' eyes than tangoing stealthily in secret and forbidden meeting-places. But what I contend for is the chance for the young to meet and become acquainted openly and with the sanction and under the eyes of their elders. Mating is as inevitable as for water to run downhill. Children, as a rule, grow up before their parents are aware of it.

The interests of law, order, morality, all demand that marriageable men and women should have the opportunity to come together and make their selections. If adequate means to meet this need were provided, we should have no more of such rascalities as that herein adverted to. It would not be out of the way for every journal to have a

matrimonial column, for the churches to take over some of the work, or for the municipalities to license proper persons or associations to conduct such agencies legitimately and honestly.

Honestly! How much is included in that word. Here is a woman who answers a matrimonial ad and sends a photograph taken twenty years ago—without seeing that when the deception is detected she will have destroyed her own chances for a happy life. The man claims to have so much property, and when married discloses his deceit, and so wrecks his chances; when, had he told the truth—or had she—the mating would have had some opportunity for success.

Though we must wait while others sow,
Let us be glad for sowing.
For fields that ripened row on row,
And for all the good things growing;
Though others reap where we must glean,
We know the hidden meaning
Of scattered grain and rows between—
Be thankful for the gleaning.

—W. D. Nesbit.

THE MULTIPLYING USES FOR EMETINE

Within the last few months we have been printing a great deal concerning the uses of emetine. This increased publicity can not be ascribed merely to a revival of our interest in this old and useful drug, one which we have always esteemed highly, but, rather, to the fact that there has been more to tell about it. The medical journals, and especially the foreign ones, have contained more references to the therapeutic applications of emetine, during the last two years, than they have for the entire preceding forty-seven years, or since its isolation by Pelletier in 1867. Of course, this sudden and astonishing recrudescence of interest in the drug was brought about by Rogers' wonderful clinical work in Calcutta and his discovery that emetine is as cleancut a specific for tropical dysentery as is quinine for malaria and mercury or salvarsan for syphilis.

I shall not attempt to review here what is being done with emetine in treating amebic dysentery. There have been a few failures. of course—that was to be expected—but they have nearly all been recorded in this journal; still, the failures have been so few in comparison with the successes, and the latter have been so brilliant and so overwhelmingly convincing that no clinician at the present time doubts the specific action of this drug.

It can now be asserted positively that in emetine we have a real cure for amebic dysentery, and, while there may be occasional relapses in these cases, while there may be certain forms which resist treatment, we also know that practically every case of the amebic type of the disease, if not too far advanced, is susceptible of cure when the remedy is used intelligently and with persistence.

Another fact which the use of emetine is bringing to light is, the presence of many cases of amebic dysentery in our own temperate climate. Thus, Wagner tells us that he knows of at least 100 cases of the disease that have been under treatment in the Postgraduate Hospital of New York; and McCaskey writes that the disease is not infrequently contracted by persons who have never been south of the Ohio River. It is more than likely that in every community there are individuals who have suffered for years from a chronic diarrhea that has defied the well-planned therapy of many able physicians, and which in reality is consequent upon the presence of the entameba hystolitica in the intestinal canal and therefore incurable until the right man comes along with the right drug.

In the light of what we now know about this drug's action, it seems to be the duty of every physician to give it a careful trial whenever confronted by a case of chronic dysentery, whether the ameba seems to be present or not; and this advice applies to physicians living in temperate climates quite as much as to those practicing in our southern states.

Nor is amebic dysentery the only disease that yields to emetine. Mayer has shown (see CLINICAL MEDICINE, May, 1914, p. 427) that dysentery caused by the presence of the lamblia intestinalis also responds to the same remedy. Major Schmitter, of the U. S. Army (see *Military Surgeon*, April, 1914, p. 330), is using the drug successfully in the treatment of sprue. He reports six cases that were relieved or cured with this drug.

Most important to American physicians, however, is the demonstration of the remarkable antihemorrhagic action of emetine, first pointed out by a French physician, Professor Flandin, and afterward verified by such brilliant clinicians as Chauffard and Dopter. Flandin found that, when emetine was given in the treatment of amebic abscess of the liver, the bloody character of the discharge disappeared. Remembering that Trousseau employed ipecac with success in the treatment of hemoptysis, he determined to try emetine, in the treatment of this complication, upon the first opportunity that might arise. Not only did he try it in one case, but in many; and

he found its action uniformly so good, often so marvelous, that he has been advocating its more general use. Flandin's favorable results have been verified by many other practitioners, who have found it effective, not only in hemoptysis, but also for the relief of other forms of hemorrhage.

It was not to be expected that it should succeed in every instance, nor has it so succeeded. In hemoptysis, for instance, emetine seems to be of more service in those hemorrhages occurring during the early stages of tuberculosis than in those of the terminal stages. Rarely, however, does it seem to fail entirely, and many are the cases in which the hemorrhage is stopped almost immediately.

Read, if you have not already done so, the experience of Dr. C. S. Cope, published on page 352 of the April number of CLINICAL MEDICINE. A recent contributor, Dr. A. N. Mc Cuister (see another page of this issue) has found it successful in the severe hemorrhages of typhoid fever. Dr. J. B. Ross was able to control the umbilical hemorrhage of the newborn. Dr. J. P. Prestley (*N. Y. Med. Jour.*, p. 905) has found it good in epistaxis, having controlled it in twenty minutes in a woman who had had nosebleed every night for ten days.

Of the employment of emetine as an expectorant we have space to say nothing—and yet in this field it gives some of its most brilliant results. More about that phase next winter.

All of this experience indicates that we are only just beginning to learn something about the real therapeutic values of emetine—which seem far more extensive and fundamental than suspected. Its pharmacologic action we do not understand fully as yet; no satisfactory explanation has been given, for instance, as to its power of controlling hemorrhage. We do hope, sincerely, that the readers of CLINICAL MEDICINE—the thousands of men who, like ourselves, are interested in the exact, truly scientific methods growing up from the use of the alkaloids and other active principles—will join in an effort to determine more accurately the field of this drug, all its possibilities and limitations.

INTESTINAL INFECTIONS OF INFANTS, AND FEEDING

I suppose that in no department of pediatrics has our viewpoint undergone such a complete change within the last few years as in that of infant feeding, and its relations to intestinal infections. And, if I should be asked to express the net sum of these changes in a single sentence, I should be disposed to say that it consists in the transference of our attention from the milk to the child. Under this new attitude, the milk can no longer be regarded as the prime factor in the etiology of acute infections, but, instead, we must look to the intestinal tract itself and its flora to explain the trouble, particularly in the heated season of the year.

There are present, of course, and must be reckoned with, several physiologic peculiarities in the infantile intestinal tract, such as the shortness of the gut itself, its muscular weakness, the deficiency of ferments, the delicate sensibility of the mucous membrane and its vulnerability to mechanical and chemical irritation, not to mention others. The most important consideration, however, and to which all the others are merely tributary, is the peculiar character and behavior of the bacterial content of the intestine of the infant.

The child is born with a practically sterile gastrointestinal canal; which however, within a few hours after birth is flooded with a multitude of numbers and species of microbes that find a ready entrance through the oral cavity, and an unhindered passage into the intestine because of the weak bactericidal power of the gastric juices. Of course, some of these bacteria play (or are believed to do so) an important part in the digestive processes.

All of these intruders may be said to be normal, in the sense that as long as they are undisturbed they do no harm. Indeed, they may be regarded as normal in a still more important sense, inasmuch as for so long as the quality and the quantity of the child's food is normal to the child's age and demands, these bacteria will *not* be disturbed. However, a change—often a very slight change—in the normal quantity or quality of the diet very quickly brings about such a disturbance in the character and distribution and behavior of the intestinal flora that they cease to be normal, many of them now becoming pathogenic. Species which before were benign become highly malignant; normal types, while retaining their physiologic character, lose their power of resisting pathogenic invasion; or they disappear altogether and give place to pathogenic types. In this manner, the net aspect of the entire bacterial field is changed from a benign to a malignant virulence.

All this may be brought about, and it often is, by any sudden or considerable change of diet, either in quality or in quantity. In a

child transferred from human to cow's milk, within twenty-four hours the normal intestinal flora of one breast-fed gives place to an intestinal vegetation characteristic of cow's milk; which may, or may not, give rise to serious disturbances of health, according to the child's resistance. A change in the quality of artificial feeding—milk from a different cow, for example—while it will not cause such a qualitative change in the flora, it, yet, will induce the relational changes described above, often precipitating an infection. And even a change in the amount of food, a simple matter of overfeeding, is sufficient to bring about the disturbance, especially in hot weather, when resistance is low.

To summate, it may be taken as axiomatic that, as long as the normal bacteria retain their physiological integrity, there will be no pathogenic invasion, and, therefore, no intestinal infection.

In view of these well-established observations, it is clear that the underlying cause of infantile intestinal infections, in the great majority of instances, is a change of diet, either as to quantity or quality.

This does not mean, to be sure, that the pathogenic germs in the milk itself do not play an important part in the causation of these infections. Our former view of the matter, which laid *all* the blame on the milk, led us to look sharply after that feature; and there is no intention of going back on what has been done in that direction. Still, "new occasions teach new duties," and we find that we have not yet solved the problem. Within reasonable limits of cleanliness, it is not so much a question of the bacterial content of the milk, as it is one of feeding as nearly as possible to normal, and avoiding changes both of quantity and quality of the aliment offered.

This, then, is the keynote to modern prophylaxis in infantile infections: (1) to maintain normal feeding, as nearly as possible; which is to say, to adjust the artificial feeding as nearly as may be to the conditions that would prevail in natural feeding proper to the age and weight of the child; (2) to avoid all sudden or any considerable changes in the quality and quantity of the food.

The first requirement is generally well understood and carried out. The second, which is not so commonly understood or practiced, involves equal care to insure *uniformity* in the source of milk, and to guard against overfeeding. It is worth remarking that not infrequently the very measures adopted to make milk sterile defeat their own purpose and actually bring about infection of the intestine. Pasteurization, for instance, if it be overdone or if the process be not uniform from day to day, may so vary the physical qualities of the milk as to precipitate the very infection it is designed to prevent. Needless to say that the loading of milk with formalin is still more likely to cause trouble.

I have watched the lily with the sunset fade, and the cloud-rifts shadow the icy glade. I have touched the zones that nature can; but never once lost my faith in man.—The Silent Partner.

AS TO COLLECTIONS

Summer is on us and the physician, in common with all the rest of mankind, will wish to take a vacation, along with his family. We venture the guess that not a few will be embarrassed and inconvenienced in so doing or the vacation even curtailed, by the fact that many of their clients are still on the delinquent list for services rendered to their families, when the bills ought to have been paid long ago. If he is not positively prevented from taking a vacation, the doctor will be put to the annoying necessity of asking, for the time, the credit which his delinquent patients get by "French leave."

Now, doctor, is an excellent time to get after those long overdue bills. Although we speak a little bitterly of those who allow these accounts to run—and we confess it makes us a little hot under the collar when we think how strenuously the doctor, and especially the country doctor, earns his fee—yet, we realize that it is an evil that is wrought from want of thought more than from want of heart on the part of the guilty debtors. As a matter of fact, these folk do not realize the gross injustice they do the physician; indeed, oftentimes it must be confessed that the doctor does not take the pains to make the people realize. They always feel that a "more convenient season" will come—that they will be a little more flush later on; and, as long as the doctor does not bother them, they procrasti nate. And while the slowpay procrastinates, the doctor "holds the bag."

To repeat, this is a good time of the year to strike such folk. In the spring, there creeps into the human family a feeling of more or less brotherliness and consideration, which makes every one rather more thoughtful of others than usual and more sensible of his obligations to his brothers. Money gets a little looser about this season and is easier to get. For these reasons, if the doctor will take the opportunity to bring his claims be-

fore his delinquent debtors in a tactful yet insistent fashion, he will, no doubt, be able to collect a goodly percentage of the outstanding accounts; and he will feel better, and the debtor will feel better, and there will be an all-around more equitable distribution of the blessings of summer.

So much has been said, and re-said, on the subject of collections that we feel it to be a trifle threadbare. Yet, at the risk of iteration—nay, because of the power of iteration—we urge upon our readers the wisdom of regular and business-like collections of bills. No real good accrues to any of the parties concerned from neglect in this matter, but, rather, quite the reverse. The longer a bill runs, the harder it is to collect, so that, while a patient who pays his bill promptly does so with a feeling of value received, if not of positive gratitude, the one who allows it to remain unpaid for weeks or months after the termination of the service actually comes to feel aggrieved and resentful at being expected to pay at all.

Allowing a bill for service to remain unpaid is exactly the same as loaning the debtor money. The instant the work is done, the service rendered, the debt accrues to the physician as an economic asset; that is, it represents his power and his right to an equivalent service or commodity in the open market of the community. That he does not demand cash payment, is merely one of the amenities of business and a professional courtesy. The money is his, just the same, and whoever keeps him out of it is in possession of that which does not belong to him. All of which, of course, every physician knows just as well as we can tell him, only we reiterate it for the sake of stimulating him to the same alertness on the subject that the business man exercises.

Of course, if you "get the money" you will "pay up" on your accrued subscription account. Why not make it five dollars for three years of CLINICAL MEDICINE?

TREATING THE CYSTITIS OF OLD MEN

There is a form of cystitis that deserves especial consideration, differing, as it does, from the ordinary forms in etiology, course, and particularly in treatment. A typical case:

A man seventy-seven years of age for years had been conscious of a growing weakness of his bladder, the impulse to urinate becoming more pressing and frequent, the discharge slower in beginning, and the stream weaker and ending in a dribbling that wet his clothing if he did not take unusual time for its completion. The urine became darker, offensive, and, without his realizing it, the bladder became distended.

One day he was seized with a chill, intense burning and tenesmus in the bladder and inability to discharge the urine; low but continuous fever; debility, anorexia, and constipation followed. The urine was withdrawn with the catheter for some days: it was thick, red, filled with pus. In the night he had to rise every half hour to empty his bladder, and this with great distress. He could take but little food, and this had to be of the simplest description.

Diagnosis: cystitis from retention, the invading microorganisms coming from within, as no instrument had been introduced into the viscus.

Three indications presented themselves: to give rest, to maintain nutrition, and to subdue the very intractable inflammation despite the fact that the causal conditions continued.

To quiet the bladder and permit several hours' consecutive sleep, with the least possible interference with digestion or vesical peristalsis, the man was given morphine and hyoscine at bedtime. This afforded five hours' healthful sleep, from which the patient awoke so much better as to confirm fully his faith in his medical adviser. This dose was repeated every third evening, so as to avoid formation of habit, and to allow nature to reassert its sway.

To maintain nutrition: The patient took a peristalsis-aider I often employ in treating the maladies of elderly men, the happy combination of strychnine, physostigmine, berberine, capsicum and juglans. This favored intestinal activity and did not seem to increase vesical irritation to any appreciable degree, so that no further laxative was needed, although for a week a daily hot enema was employed to clear the large bowel of accumulations.

Food was ordered of the most nutritious forms compatible with digestion—soused meats, raw oysters, eggs, beef, rice, soups, buttermilk (he disliked milk), *cafe au lait*, chocolate, egg beaten up with sweetened milk. All irritants—alcohol, spices, condiments—were forbidden. Oatmeal-gruel was urged to be drank freely. The foods he took every four hours, with nutritious beverages in the intervals whenever he felt a desire for them.

For the direct attack upon the cystitis I relied upon a single remedy, arbutin; a grain of this given every two hours while the patient was awake. The effect of this glucoside is not manifested until at about the end of a week's steady administration; but by that time the patient is satisfied, and the relief is such that he does not have to be urged to continue its steady use. The arbutin should be continued as long as a trace of pus is detected in the urine. However, the pus steadily decreases, the vesical irritability lessens, and the muscular walls of the viscus regain their powers of sensibility and contractility. Indeed, the arbutin may be continued for a year or more, with benefit and absolute impunity.

The difficulty is first to induce the patient to discontinue his liquor, and usually he prefers to change his doctor for one more complaisant; but the suffering is so severe that this obstinacy soon cures itself.

These cases are common enough to make them worth considering. The genius of the profession has expended itself on gynecology, on the eye, on children, on the rectum; but the old man has had few to care for or consider him.

WORK FOR THE OLD MEN

Never again shall we criticize the farmer who does not "tidy up" his farm or attend to the little things. Take the real farmer—not the one who spends precious hours loafing about the village store or the barroom, but the one who stays on his farm and works it, never leaving except when compelled to do so. Take such a man, and his every available hour, every gray cell and muscular fiber of his body is completely engrossed with the major work of the farm—plowing, planting, irrigating, care of stock and farm-machinery, work without end.

There remain innumerable things that the farmer simply can not do, as, for instance, clearing up trash, dead leaves, grass and weeds; picking up waste wood, using the usable pieces and converting the rest into fuel; trimming trees; making hotbeds and hens' nests; mending fences; clearing and banking irrigating ditches; cutting bean-poles and pea-brush; whitewashing; the gardening—and lots more. For, let it be known, in this favored Yakima Valley, cultivation was in full operation in February; while the East was engulfed in the early March blizzard, we were setting out rose-bushes and pansies and sowing for early vegetables.

The farm is the food producer. Here we reach the lowest cost of living, eliminating all costs of transportation, middlemen and endmen, jobbers, wholesalers and retailers. Milk, butter, eggs, chickens, pork, veal are ours for the cost of production: garden-vegetables, for the trouble of raising; fruit, for the picking. And the best of everything—possibly there may be pork equal in flavor to this alfalfa-fed product, but even the favored Beechnut brand does not approach it. I was incredulous when Doctor Sudduth made this assertion some time ago, but now I know it.

Personal expenses reach the minimum here. Old clothes are better than new. The little drains that melt away a V so swiftly in the city are absent. These summer-warm days alternate with cold evenings and frosty nights, but a wood-stove quickly warms a room—and fuel for it costs nothing, and gathering it saves the expense of coal.

Besides the little odd jobs indicated, there are a host of others constantly recurring on a farm, when the presence of an old man, old and feeble but yet able to putter about, saves taking the farmer from his proper work.

In another way the superannuated man may be of value on the farm. Many of the weeds have commercial value—but the farmer has no time to gather and cure them. The old man about the house can do this, as it involves little expenditure of force and he has the time to do it without exhausting hurry.

Then there are patches to wooded land where he may plant golden-seal. The root is worth cultivating. The roof? With hydrastine at present prices, every particle of the plant should be saved for its extraction. Still more, every catalog from the seedsmen and every periodical devoted to agriculture tell of new crop-plants and new varieties of the old ones, of new fruits and new strains calculated to withstand climatic conditions fatal to the ordinary sorts. Much of this is error, of course, but how is the farmer to find time to try these things? Give the old man the samples of seeds, and so on, and a strip of garden. He can try all these things and let the farmer see the results. Let the fence corners be devoted to his berries instead of the usual weeds; the ditches to cresses, the rough cleared lots to nut-trees, the corners of the chicken-yard to guinea-hens, rabbits, Belgian hares, conies.

Leading Articles

Epilepsy and Its Treatment

Illustrating the Use of Snake Venom

By HARRY W. KEATLEY, M. D., Huntington, West Virginia
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EDITORIAL NOTE.—So much interest has been expressed in the treatment of epilepsy with rattlesnake venom, and there has been such wide variation in the results obtained that we are very much pleased to publish Doctor Keatley's careful and interesting report of experience with this substance in a large state institution.

SINCE before the days of Hippocrates, epilepsy—commonly spoken of as "fits"—was known to the world as a great scourge. Among the ancient physicians, this malady was not looked upon as the severe disease or the incapacitating trouble that it is at the present time. Hippocrates, in his writings, speaks as follows of the outcome of epilepsy:

"If it attacks little children, the greater number die. If youths and young adults, recovery may take place, but there is danger of its becoming habitual, and even increasing, if not treated with suitable remedies, such also is the case when it attacks young children. When a person has passed the twentieth year of life, it is not likely to seize him."

Few people realize the extent to which epilepsy is prevalent, but, in the United States alone, it is estimated, there are approximately 250,000 sufferers. A great majority of these victims are cared for in institutions supported by public moneys, great colonies of these unfortunates being gathered together in hospitals maintained for their care and treatment.

The approximate cost in state institutions, per capita per year for the maintenance of these epileptics, seldom falls below $130. Figuring at this per-capita rate, the amount of money spent in the United States alone aggregates the enormous sum of $32,000,000. Fifty percent of all epileptics are unable to follow any occupation, and, therefore, sooner or later become public charges, while from 25 to 40 percent are self-sustaining for from one year to several years after the disease first shows. Even in the case of those in whom there is no impairment of the mental faculties, the knowledge that one is a sufferer from epilepsy, no matter how mild or infrequent the attacks may be, suffices to make the epileptic an unwelcome person in the commercial world; the unreliability of the constancy of their services rendering hazardous to themselves, and perhaps to others, many occupations.

The causes of epilepsy sometimes are practically unknown, but two factors are of great importance, the first of which is, the inheritance of instability of the nervous system from ancestors who have suffered from some form of nervous disease or who may have damaged the nervous system by the abuse of alcohol or by other excess; secondly, the patient himself may be an alcoholic. Fright, mental excitement, injuries to the head, intestinal worms, and teething in children frequently are the cause. The intermarriage of epileptics as well as of other mental defectives should be absolutely prohibited, since children of such unions are liable to suffer some mental defect.

The varieties of the disease are so many that it is impossible here to do more than describe the main type in its severe, slight, and irregular forms.

In severe forms—called *grand mal* by the French—the patient may, without warning, utter strange and inarticulate cries and fall suddenly to the ground, unconscious; he becomes deathly pale; his body is rigid, with the back arched and the features set, and he ceases to breathe. Soon the color changes, the face becomes a livid-purple, the veins of the neck swell up and pulsate, the eyeballs protrude, a gurgling sound is heard in the throat, and death seems imminent; but al-

most immediately breathing begins again and the whole body is thrown into a series of convulsive twitchings. The trunk and limbs are thrown about in various ways, the face is hideously contorted, the tongue is jerked out between the teeth and often bitten, the jaws are convulsed so that the teeth sometimes are broken.

After about two or three minutes, the convulsive movements cease, leaving the patient comatose for a time. He then opens his eyes, looks around with a dazed expression, then may go to sleep. On awakening, he is quite unconscious of what has happened. He may have a severe headache and be morose and irritable. Sometimes a condition of homicidal mania follows the fit, when the patient attacks anyone whom he may see. As a rule, the fits are separated by intervals varying from a few hours to several months. A very grave condition sometimes supervenes, called the status epilepticus, when one fit succeeds another before the stage of coma has passed off.

The attacks may be preceded by a distinct warning—the aura, as it is called. There may be peculiar sensations, such as flashes of light, strong odors or a tingling in the fingers or toes or a twitching of a group of muscles. The mental condition of epileptics between attacks varies much. In about one-third of all cases, the mind seems to be unimpaired. Napoleon Bonaparte, Peter the Great, Mohammed, Julius Cæsar, and even Paul the apostle himself are examples of epileptics with highly developed mental faculties. Very often there is an uncertainty of temper or criminal tendencies. The mental deterioration seems to be influenced more by the early appearance, and duration of the disease and by the frequency of the fits, rather than by the severity of their form.

Epilepsy is legion, as it exists the world over, affecting the rich as well as the poor; and no race is exempt. In many instances insanity is a sequence to this disease.

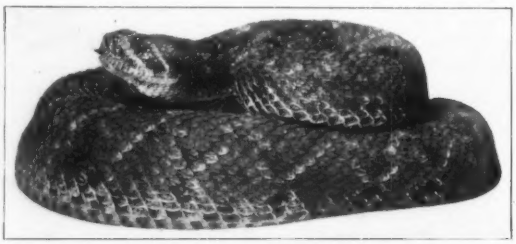
Epileptics Victims of the Quack

Those afflicted with epilepsy have, for many years, been the victims of unscrupulous medical men and quacks of all sorts; patent-medicine venders have made millions in the nefarious sale of fit-cures. Their stock in trade is impudence and mendacity, and their clientele, the gullible. Their glaring, lying advertisements of "sure cures" have buoyed the hopes of the credulous for a time, only afterwards to find that they have been robbed, and who finally turn to some state asylum, where a few are annually discharged as cured.

There are a great number of remedies that have been used empirically for time immemorial. The salts of bromide have been used in the treatment of epilepsy for years. However, no one drug, nor any combination of drugs, has proven a specific in the cure of epilepsy. Many patients have improved under the use of the bromides and other drugs, the frequency and the severity of the attacks being lessened, and sometimes cures are brought about by the combination of medicinal, hygienic, and dietetic treatment; still, as has been stated, the percentage of complete recoveries is very small.

Snake Venom as a Promising Remedy

For several years past the venom of different snakes has received attention at the hands of European investigators. Even as early as 1843 Prince Lucien Bonaparte made a chemical analysis of snake venom, showing that it was albuminoid in its nature; and, perhaps twenty years later, one of our own eminent physicians, the late Dr. S. Weir Mitchell, of Philadelphia, began analyzing the venom of rattlesnakes. He demonstrated its proteid nature, and, before his experiments were finished, he found that it consisted, not of one, but of several proteids, two of these globulin and peptone, seeming to predominate. Dr. Henry Sewall, of the University of Michigan, later began a series of experiments on doves, with a view to causing them to become artificially immune against snake bites, and his conclusions prove that, by repeatedly inoculating with sub-lethal doses of venom there was produced a resistance against the effects of snake bites, without any apparent influence on the general health of the subject. At the present time, in Brazil, there is maintained an insti-



The American rattlesnake—the King of Diamonds

tution where antivenom inoculations are made. Here, horses are injected with the venom of the most poisonous snake, later a serum is obtained from these horses, which imparts immunity against the effects of snake venom.

However, quite recently—partly through accident and partly through scientific research—the venom of the crotalus atrox, or the American rattlesnake, was brought to

Rattlesnake 9½ feet long

the notice of the medical profession as a cure for epilepsy. It seems that an epileptic, sorely tried and greatly worried, from the fact that he was the victim of frequent severe seizures, wandered into a valley of the Southwest and there was severely bitten by a rattlesnake. A party of hunters, among whom was a physician, heard the cries of this unfortunate and immediately went to his rescue. When the man fully recovered from the snake bite, he subsequently discovered that he had been made free from his epileptic attacks, of which he had been the victim for years. These facts led to an investigation of different venoms, with special reference to the treatment of this dread malady.

Description of the Venom-Snake

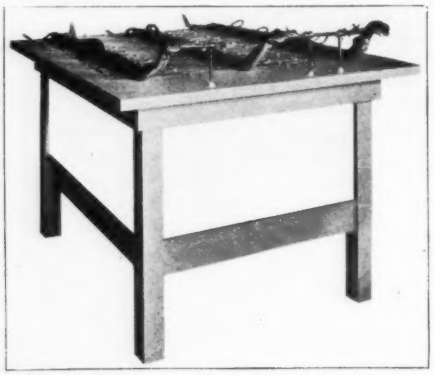
A brief description of the snake from which this venom is obtained is, perhaps, not amiss at this point; but here let me say that not a few ideas about rattlesnakes must be dismissed as false. Thus, the common belief that birds and mammals are hypnotized by the rattler is erroneous; they may, however, be overcome by a paralyzing fear. The rattling does not lure prey or attract mates, as generally is believed, but is rather a reflex expression of excitement. The snake is naturally sluggish and prefers defensive to offensive tactics, except when on the track of rabbits, rats and other small animals, which seem to be its natural prey.

The crotalus, or rattlesnake, has a long fang, located on each jawbone, which is perforated by a canal down which the poison secretion of a modified salivary gland flows when the rattler strikes. Behind each fang are several reserve-fangs, which replace it should it be broken—a not infrequent result of the bite. The opening of the mouth also brings about the erection of the fangs, which are folded back and ensheathed when not in use. Stretching over the poison-glands is the origin of the muscle which moves the lower jaw; and by the means of this and of other somewhat complex arrangements the gland is automatically compressed when the snake opens its mouth to strike. The fluid, which is formed in these glands, is forced out along the fangs and is clear, viscid, of acid reaction, and very poisonous; the toxicity varying according to the species and also with the vigor of the snake. Injected through the fangs into the blood of a victim, the venom tends to

The old and dangerous way of milking the venom

paralyze the nerve-centers. It is most effective on birds and mammals, less so on cold-blooded animals.

As the venom-glands of the snake gradually fill up after being emptied, the captive snakes are used only at intervals of not more than one or two months, and not then unless they are



On the operating table, ready for the milking

in perfect health and feed well. Four or five months is about the average length of time that the reptiles remain in good condition.

How the Venom Is Procured

Two or three laboratories for the collection and preparation of snake venom for scientific purposes have been established in this country. In connection with the laboratory is usually an ophidum, or snake-den, where live rattlesnakes are kept under conditions similar to those existing in their native wild state. Their food consists of various small animals, such as rabbits, mice, guina-pigs, which are kept for that purpose. However, it frequently happens that these snakes devour one another.

From these laboratories a scientist is occasionally sent to southern Texas and Mexico, who organizes parties of Mexican snake-hunters. These parties consist, generally, of four or five persons.

Various ways of hunting and capturing these snakes are employed; experience, of course, being a valuable asset to the hunter. Sometimes dogs are used to locate these reptiles. When a dog finds one of the snakes, he commences barking and jumping about, being careful to keep out of striking distance; meanwhile one of the party may quickly tap the snake slightly on the head, stunning him. The reptile is quickly transferred into a canvas bag.

Some of these hunters become so expert at their work that often they can pick up a snake and bag it ere the latter has time to strike. It frequently happens, though, that these reptiles make a valiant fight, and when this does occur any method calculated to effect its capture is resorted to, of course; still, not infrequently a single large rattler will rout an entire party. As these snakes grow to an enormous size (some as large as eight or nine feet in length being captured), they make formidable antagonists, and not infrequently, in spite of all precautions, the hunter is bitten. In a large percentage of cases rattlesnake bites are fatal, although immediate treatment may prevent death.

Various methods of obtaining the venom have been devised. One of the plans in practical use at present is, to fasten the snake to a specially devised table, the neck being held by an elevated clamp. The operator then causes the snake to open wide its mouth by drawing his finger backward under the lower jaw of the snake, when the mouth is cleansed by means of spraying. This done, the snake is induced to bite on a shallow sterilized glass capsule, which catches the discharging fluid. One former method of obtaining the venom was for one operator to hold the snake while another held a saucer-shaped dish on which the snake bit.

After the venom has been carefully evaporated to dryness, it forms a scaly substance of amber color, readily soluble in glycerin and in normal salt solution; and it is now ready for commercial purposes. In making solu-

A badly swollen arm

tions of this dried venom, the greatest care is imperative as to asepsis. After adjusting its strength, the solution is sealed in ampules, holding 1 cubic centimeter each. It is customary to prepare solutions of different dosage. The size of the dose to be injected must be determined for each individual, the usual

minimum quantity being 1-200 of a grain of the scaled venom.

Mode of Administration and the Therapeutics

It is customary to inject this solution deeply into the muscles of the arm or the leg. We have generally used an all-glass hypodermic syringe and a small platinum needle, and, in making an injection, we hold the syringe at an angle of about sixty degrees.

After injection there is a feeling of burning, stinging pain, and swelling occurs at the point of injection and in the surrounding tissues. The pain is of a short duration and of only moderate severity. The swelling seems to commence shortly after the introduction of the venom into the muscles, and sometimes becomes quite extensive. However, within from twenty-four to thirty hours the swelling seems gradually to subside, so that in three or four days the part has returned to normal. Abscesses or serious complications never have been observed; ordinary precautions, of course, having been taken to avoid infection. Sometimes, when the swelling became severe, we have applied a lotion of lead and opium, or of epsom salt, which seemed to alleviate it.

In making these injections, we usually select a site at the insertion of the deltoid muscle, which is prepared by cleaning with tincture of green soap and with alcohol. The needle and syringe are sterilized before each injection. The contents of the syringe are expelled slowly into the muscles, and, upon withdrawal of the needle, the prick is sealed with a drop of flexible collodion. Generally we are guided by the character of the epileptic attacks as well as by the local reaction as to repetition of the dose, the intervals usually being from four to six days.

When reaction fails to appear following a certain dose, its size is increased at the next injection. However, in some cases, even after the injection of large doses, we have failed to get any reaction whatever. We have noticed that in some of these cases there is a great variation as to the local reaction; for, at times a very small dose will cause much local reaction, where in the same patient a large dose will only give a slight reaction. In other patients this may be reversed. This fact shows either a lack of uniformity in the strength of these solutions, or the susceptibility of the patient for the venom may be subject to changes during a few days.

Number	Sex	Age	Occupation	Family history	Personal history	Duration in years	Total number of injections	Minimum dose	Maximum dose	Average monthly attacks—before	Average monthly attacks—after	Character of seizures since treatment
1	M.	29	None	Negative	Negative	13	20	1-150 gr.	1-12 gr.	4	7	Same — Mental and phys. con. impaired
2	M.	36	Miner	Negative	Negative	11	20	1-150 gr.	1-12 gr.	12	2	Lighter
3	M.	15	None	Negative	Negative	2½	20	1-150 gr.	1-12 gr.	4	1	Lighter—Increase wt. 16 lbs. in 2 weeks
4	M.	30	Farmer	Grandmother insane	Negative	30	20	1-150 gr.	1-12 gr.	4	13	Same
5	M.	34	Farmer	Negative	Negative	20	19	1-200 gr.	1-12 gr.	1 in 2 mos.	1 in 2 mos.	Same
6	M.	46	Iron Worker	Negative	Hard Drinker	15	20	1-150 gr.	1-12 gr.	12	2	Lighter
7	M.	35	Farmer	Negative	Negative	21	16	1-150 gr.	1-12 gr.	8	5	Same — Mental and phys. con. impaired
8	M.	32	Farmer	Blood Relation	Negative	17	19	1-150 gr.	1-12 gr.	4	1½	Same
9	F.	24	None	Negative	Negative	15	20	1-150 gr.	1-12 gr.	12	15	Same
10	F.	21	None	Negative	Negative	?	20	1-200 gr.	1-25 gr.	4	7	Same
11	F.	18	None	Negative	Negative	18	20	1-150 gr.	1-12 gr.	12	15	Same
12	F.	30	None	Negative	Negative	10	19	1-150 gr.	1-12 gr.	4	1½	Same
13	F.	17	None	Mother epileptic	Negative	7	20	1-150 gr.	1-12 gr.	8	8	Same
14	F.	38	None	Negative	Negative	7	19	1-150 gr.	1-12 gr.	8	7	Same

TABLE SHOWING CASES TREATED WITH SNAKE VENOM

The duration of treatment in any one case depends entirely upon the severity and frequency of the attacks, it being desirable, of course, to continue the injections as long as the patient continues to improve.

Results of Venom Treatment

In three of our cases, improvement was observable from the very first dose; in others, no improvement was shown until after repeated injections; while a majority of the patients treated have given no evidence of improvement. Where any improvement at all has been noticed, it has been in the men.

I attach a table showing in condensed form the histories of 14 cases treated with the snake venom. All of these cases were idiopathic epilepsy; all were cases of grand mal; and all had been for a longer or shorter period on the classical treatment, including bromides. Treatment was begun on November 6 in all these patients, with the exception of cases 5, 8, and 12; in these treatment was initiated on November 12, 17, and 12 respectively.

It has been shown by Dr. John Turner, in *The Journal of Mental Sciences*, that the average rate of coagulation of the blood is increased in epileptics, and that just preceding a seizure the coagulation rate is higher. This has been confirmed by other investigators, who are convinced that there obtains a rapid coagulability of the blood for many hours preceding a major attack. Mitchell and Reichart express the opinion that snake venoms lessen the rate of coagulability of the blood. It would appear, therefore, that, if the coagulability of the blood is increased during an epileptic fit, and that the venoms prevent and retard coagulation, this fact may in a measure explain the results obtained. We also have noticed that during an attack of fever the epileptic generally is free from seizures. As to this, it is asserted by other observers that the coagulability of the blood during fevers generally is retarded.

Contaminated Preparations

Examination of a recent report by John F. Anderson, of the Hygienic Laboratory, shows that 38.8 percent of the 95 ampules of snake venom lately examined by him were found contaminated, in many instances with anærobic organisms. In view of this fact, it would seem that, as the subcutaneous injections of venom reduce the normal bactericidal power of the blood-serum, there may be great danger of serious harm resulting from injections of contaminated venom solutions.

In one of our cases, the patient immediately after the first injection of venom became almost maniacal, with pupils dilated, quickened pulse, a very slight rise in temperature, and a slight increase in respiration. This condition remained this way for about twelve hours, when the subject returned to normal, and has had no recurrence of these symptoms from subsequent injections.

In another case, symptoms of mania, with increased temperature and pulse, occurred after the second injection; the patient remaining in this condition for several days. It has been noticed in several cases that immediately after the beginning of the use of snake venom the number of convulsions have increased for a short time. However, at no time have any of the patients under this treatment been in any serious physical condition.

In conclusion, I wish to state that, from our experience with the use of snake venom in the series of 14 cases, covering a period of four and one-half months, one patient has been greatly benefited as to number of seizures; that in three cases the character of the seizures have been changed from a severe to a lighter form; that in 11 cases there has been no change whatever in the character of the seizures, and that out of the 14 cases, averaging 97 attacks per month before the use of the snake venom, the monthly average has been decreased to 87, making a reduction of 10 seizures a month. This reduction is divided among 7 cases—or, the reduction on the whole has been less than one seizure for each patient.

Hence, the severity of the local reaction and the unpleasantness due to the general reaction, coupled with the results obtained from its use, and, aside from the fact of the possibility of infection (as shown by Anderson's report), would suggest to our minds the discontinuance of snake venom as a routine method in the treatment of epilepsy. However, in specially selected cases and where the snake venom is freshly prepared and absolutely sterile, the use of the venom should certainly be given a trial.

The Diarrheal Diseases of Infancy and Childhood

How to Treat Them Successfully

By GEORGE H. CANDLER, M. D., Chicago, Illinois

EDITORIAL NOTE.—Doctor Candler is a favorite with the readers of this journal, who will all enjoy his iconoclastic remarks and practical conclusions anent the diarrheas of childhood. His paper will be completed in the July issue.

THE busy physician who has to meet as best he can the exigencies of general practice, after attempting to assimilate extremely prolix scientific papers presenting entirely different theories as to the cause of the diarrheal diseases of infancy and childhood, is likely to throw up his hands, deciding to content himself for a while with differentiating cholera infantum (which, though, the country doctor rarely encounters) from "summer-complaint"—or, more scientifically, gastroenteritis on the one hand, from acute intestinal indigestion on the other. Unfortunately, our knowledge of the bacillary (infectious) diarrheal diseases is, at the present time, far from complete, so that, as a result, we are burdened with several classifications and a most diverse and puzzling nomenclature.

The average man dipping into current literature from time to time, as opportunity offers, is likely to get the impression at one of his readings that everything he thought he knew or has done heretofore is wrong. Abashed at his ignorance and determined to keep abreast of the times, he steals a few more hours for study, only to rise from his perusal of a fresh batch of literature aghast not alone at his own crass ignorance but at the idiocy of the theories of the author first studied. Immediately he orders and feverishly awaits the arrival of various monographs, reports, and textbooks, for he has decided, once for all, that no longer will he fail to identify the bacillus dysentericus or ignominiously continue to diagnose and treat just plebeian "diarrhea," when he might just as well be scientific to the core and proceed to combat 'steen forms of enteritis, enterocolitis, iliocolitis, and other -itises.

So he prosecutes his studies, only alas! to find that the most convincing monograph of his new pile upsets all the conclusions arrived at in the longest of the reports, and monograph No. 2 evidently was written by a scientist with a burning desire everlastingly to squelch, and entirely to erase from the horizon, the author of monograph No. 1.

In despair, the doctor now peruses "Study No. 3." From this he learns that the guinea-pigs sacrificed upon the altar of science by the author of monograph No. 2 were not fed correctly (when—horrors!—they had been fed two carrots and a cabbage-leaf a day, whereas they should have had two cabbage leaves and one carrot), so that, plainly, all the conclusions arrived at were teetotally worthless. Q. E. D. At the same time it is definitely shown that the writer of monograph No. 2 sterilized his culture-media—or the tubes, or maybe both—in an autoclave at 200 degrees Fahrenheit scale, for one hour, whereas, we are told, the process should have been continued for one hour and five minutes and the temperature raised two degrees during the last forty seconds. The fundamental procedure utterly wrong, obviously all the conclusions arrived at are absolutely erroneous.

The learned writer of Study No. 3 having thus demolished every other man's work, straightway proceeds to prove that the white rat, if fed upon bread and pasteurized milk, will gain weight more rapidly than would the common brown sewer-rat when placed upon a strict allowance of whey. On the other hand, the white rat, we are informed, will curl up and die if given 2,000,000 Shiga-Flexner bacilli intravenously, whereas the more vulgar rodent refuses to surrender the ghost until at least half as many again are pumped into him. All of which makes it plain as daylight, first, that iliocolitis is not gastroenteritis; second, that, although the Shiga-Flexner bacillus may be present in either or in both conditions, it very often is not; and, third, that pasteurized milk (and good wheat-bread) is better food for rats (and, therefore, should be better for babies) than whey. Once more: Q. E. D.

Too-Much "Science"

The doctor in search of the TRUTH at this point throws the "studies" and the "monographs" and all the rest of the stuff into the furnace, cancels his subscription for

several ultra-scientific journals, and turns with a sigh of relief and a hopeful spirit to the two "new" textbooks and "Handbooks," "revised and enlarged," that he has procured at a cash outlay of seven dollars per volume. It would not be kind to follow our wanderer in the wilderness further. Suffice to say, Textbook No. 1 vouchsafes precisely the same information that he was possessed of as long as ten years ago, with, be it admitted, one additional paragraph, to the effect that "recent researches show that several bacteria may be causative of diarrheal diseases!" Textbook No. 2, however, actually devotes several pages to the subject. "There may be," this author states, "extremely severe symptoms or very mild ones; the lesions in the bowel may be many, few or entirely absent; evidence of toxemia may be pronounced or lacking; the disease may run a rapid or long course. The difference seems to depend upon the virulence of the infection and the condition of the child itself." Then, to clear the clouds away and make plain the path of the troubled practician, the latter is assured that "it is quite impossible at the outset to tell whether a diarrhea is of the bacillary type or merely an intestinal indigestion. The latter should respond to treatment; a continuance of symptoms means an infectious diarrhea!"

Everything, you see, is *perfectly* plain! What more could the doctor ask? The oldfashioned physician who cured (or cures) his "summer" diarrheas and other diarrheas with calomel, the sulphocarbolates, bismuth, camphor, and so on, had only oldfashioned intestinal indigestion to deal with. Today, with a sophisticated milk supply and parents addicted to the tango and maxixe, the child may have the milder disorder, but is quite likely to harbor bacteria of a most objectionable character (benign microorganisms, like the poor, we "always have with us") in some part of his intestinal architecture. The doctor, if he would be up to date, has merely to identify and locate the invader, name the malady scientifically, and then proceed to administer really "scientific treatment." Such procedure is based, seemingly, upon the fact that, if the child doesn't get well under ordinary medication, he has an infectious diarrhea—which is, of course, a very serious matter, for the child.

The Doctor is Unsettled and Uncertain

Seriously, this constant premature presentation of a hodge-podge of quasiscientific data to the man in the field tends to unsettle him and render medicine a very uncertain quantity to him.

In the first place, there are thousands of men in general practice who left college fifteen, twenty, and even twenty-five years ago. To their credit be it said that they do try to keep informed, but unless they neglect their practice (which is usually impossible) they cannot hope fully to comprehend even half of the newer theories—the very terminology puzzles them. These tried and experienced men are blandly told that their trusted remedies are unreliable, are assured that they have deluded themselves when they imagined they cured or even really controlled disease-processes, and the "high authorities" speak disdainfully of the reports of ordinary men who venture to describe their successes with ordinary drugs. In order to educate and "improve" this benighted "practical" practician, the highbrows fill their journals with abstruse treatises—the several writers perchance directly contradicting each other—and multiply the textbooks, which, for the most part, are but rehashes of old material with some new matter clumsily grafted on.

Now and again, to be sure, definite facts of practical value are presented in such form that the ordinary physician actually can appreciate and apply the information. Not infrequently, though, such really useful information is promulgated only by independent journals—"quasi-medical" publications the "elect" dub them—yet, so great is the fear of ridicule, so firmly implanted the desire to be "as big as the next man," that many hard-working (and financially hard-pressed) physicians subscribe for the "recognized scientific journals" (which, if at all read, confuse rather than help them) and then, for the simple reason that they cannot afford both, cut off the "practical periodical," whose sole mission is, to work for the good of the doctor!

We Are Really Progressing

That we are moving forward, that things that were accepted as true yesterday are known to be false today, there is no doubt; that curative methods unheard of last year have been discovered and are generally available now, also goes without saying; but, we also know that agents and measures introduced with a flourish of trumpets from the laboratory-workers a few months ago, when subjected to the acid-test of actual use in practice, have "fallen down" ignominiously.

What the overworked general practician really needs is a reliable clearing-house that will accept any and all things, subject them

to an effective winnowing-process, and release for further circulation only good legal tender.

As a matter of fact, the doctor himself is still—must, inevitably, always be—the final judge of the value of a remedial measure or agent. If in the hands of a thousand men such a one makes good time and time again—proving its superiority—it will be used more and more extensively as constant good results warrant increased confidence.

So in the treatment of diarrheal diseases, it is a serious matter to shake the physicians' faith in old and tried remedies without at the same time supplying him with far better—and understandable—working-formulas. Dr. Isaac A. Abt, of Chicago, in his recent article, "History of the Classification of Gastrointestinal Diseases in Ancient and Modern Times," cogently puts the matter thus:

"Whither are we drifting now? Are we standing on firm foundation or are we on the quicksands? Has all the work on cellular pathology been completed? Is the biologic study of the gastrointestinal tract forever a closed book? Are *all* the questions which confront us in the solution of this group of disorders to be disclosed by the chemical study of food and inquiry into metabolic changes? The great danger is that we drift too far. Is it not well that we occasionally take inventory of the debts we owe the past as well as of the contribution of the present? We may see light from the research of today, though the illumination is not sufficient to permit us to say that darkness has vanished."

A Satisfactory Classification

I do not hesitate to affirm that the present generally accepted broad classification of diarrheal disorders, generally speaking, is quite satisfactory, while the rational treatment which (with slight modifications) we for so long have advocated stands preeminent, by reason of its general efficacy.

In children, as in adults, we have, as a rule, to deal with three prime factors: (1) intestinal indigestion (primarily gastric, perhaps); (2) intestinal intoxication; (3) intestinal catarrh.

Although the laboratory-man may talk glibly of the importance of the role the bacteria are playing in the production of intestinal disorders, he has not yet been able definitely to associate specific microorganisms with well-recognized diarrheal diseases. Moreover, it is quite possible that the socalled normal intestinal flora may, under certain conditions, assume distinctly pathological attributes.

Of certain things, at least, we are reasonably sure. At birth, the alimentary canal is free from bacteria, but within a few hours, or days at best, bacteria make their appearance there. The character of the microorganisms, of course, to a great extent will depend upon the nature of the food ingested. Breast-fed children will not have the flora of the bottle-fed infant.

We know that most of our cases of gastroenteritis and allied troubles are observed in infants artificially nourished or else in children during the second summer, when food other than mothers' milk is being ingested. As a rule, the trouble starts from overfeeding or the administration of improperly balanced cereal and milk mixtures.

The pediatrist who would be successful must perforce make a study of infant feeding, and he who has, knows that many infantile diarrheas will not yield to medication, but will disappear upon the exclusion of excessive fats, proteids or carbohydrates—too much milk-sugar. In intelligent feeding (which includes the withholding of contaminated milk), the prevention of fermentation, through elimination of waste and perfect oxygenation of the blood stream (fresh air in abundance and the absence of constricting bands), are the prophylactic *essentials*.

The self-same principles apply in the treatment of all diarrheas. Unless we have to deal with gross lesions or a specific infection, we find an inability to digest all or certain kinds of food substances; fermentation of retained partly converted or unconverted ingesta; an enormous increase of bacteria—some distinctly "foreign" and injurious, others native but so perverted by conditions that they become inimical to the welfare of their host; localized congestion, with excessive secretion and toxemia from absorption. Verily, it matters very, very little to the physician whether there are present in the *intestine* two different kinds of bacteria, or twenty. The thing is, to get rid of them all—or, if that be impossible (as it really is), to decimate their ranks and render the survivors harmless.

(*To be continued*)

The Treatment of Acute Infections

By J. M. FRENCH, M. D., Milford, Massachusetts

EDITORIAL NOTE.—Did you read Doctor French's fine series of addresses to a class of medical students, published in this journal last year? In these talks he gave the fundamental principles of active-principle therapy and began the development of the practical methods of applying these principles in actual practice. In this article he carries the "story" a step further. Others will follow. Be on the lookout for them.

DR. W. H. BURGESS, of Tennessee—the man who invented one thousand new uses for epsom salt—reduced all known diseases to five, which he named Retention, Invasion, Enervation, Trauma, and Poison. If you will look upon these as five original types with which all diseases may be compared, or as five great classes in one or another of which all known maladies may be placed, you will see that Burgess was a man who thought for himself, even though his ideas do not run in the beaten tracks.

The acute infections, to which I shall call your attention today, all belong to Burgess' second class. They are invasions. To use the Doctor's own words, "there is an enemy present, and this whole array of symptoms is an invasion."

Under the general head of acute infections, it is customary to consider all of the eruptive fevers—such as measles, scarlet-fever, smallpox, chicken-pox—with diphtheria, influenza, whooping-cough, mumps, and others of a similar nature, most of which commonly are regarded as diseases of children, for the reason that, being of a highly contagious nature, most persons contract them before arriving at the years of adult life. To these may be added a formidable list of other diseases, including pneumonia, typhoid fever, erysipelas, and meningitis, all of which are acute infections. But to make up the class in this way would be to include in it an unduly large proportion of all the diseases the physician is called upon to treat, consequently I shall limit the term acute infections to the diseases first named.

A General Consideration

Let us first consider them as a class and see wherein they resemble the type, which is a composite of the whole.

In the first place, they are all acute diseases and, beginning with a greater or less degree of fever, require special treatment for the hypertherma; except in those light cases in which only care, watching, and proper restraint are needed for restoration to health. Reduction of temperature is best accomplished by means of the defervescent alkaloids aconitine and veratrine, aided when necessary by the tonic remedies strychnine and digitalin, according to the general method already described by me in dealing with pneumonia and typhoid fever. To the remedies named, some others may be added under special conditions. Each remedy has its special indication, and the remedies and combinations selected are varied with all the changing conditions of the patient and phases of the disease. With this understanding, it is safe to say that the treatment for "fever," once learned, is learned, in its general outlines, for all classes of patients and every named disease.

In the second place, since these diseases are all invasions of the body by an enemy from without, they are all benefited by some form of eliminative treatment, whereby the enemy may be driven from the system—or, if not driven out, at least rendered unable to thrive and grow, because the resisting power of the body has been raised and the natural immunity of the system to disease, which is reduced by fecal toxins and retained waste, has been increased. Hence, elimination is an essential step in the treatment.

Here again, the general principles to be followed are substantially the same as those which were laid down under the head of eliminative treatment in typhoid fever. There is, however, a variety of other drugs and remedial measures that may be called in aid, among them, calomel, podophyllin, bilein—small doses, singly or combined—followed by the saline laxative; or, in some cases, the old-fashioned remedy castor-oil may be superior to any of the others. Of course, other appropriate remedies may be called for, while sometimes a laxative enema is advisable. There is plenty of opportunity for intelligent choice. But, whatever is given, give it in *small doses to effect*. The doctrine of clean out, clean up, and keep clean is strictly applicable in all invasions, that is, acute infections.

All Are "Septic" Diseases

In the third place, they are all septic diseases, due to some poison introduced into

the body from without. These poisons are believed to be living germs, each one specific to the disease which it produces. In nearly all of these diseases, this germ has been discovered and its habits studied. In others, this has not yet been done, but in all probability soon will be. And, since it is impossible to eliminate the poison completely, an antiseptic is also needed, whereby the sepsis may be overcome and the germ destroyed; or, when this is not practicable, at least its vitality may be sapped and the soil in which it exists rendered infertile, so that its growth may be hindered or prevented. These results may usually be accomplished by means of chemical antiseptics, employed both internally and externally.

When taken into the system, these germicides in many cases show an affinity for some particular organ or tissue. Thus, calcium sulphide exerts its characteristic effects upon the blood; the sulphocarbolates, upon the intestinal canal; creosote, upon the respiratory organs; hexamethylamine, upon the urinary organs; and so on through the list. Salvarsan acts specifically in syphilis; quinine, in malaria; emetine, in dysentery. The particular remedy to be employed will, therefore, be determined by the nature of the disease and the organs and tissues which are chiefly affected thereby. This form of therapeutics sometimes is referred to as chemotherapy.

In the fourth place, since they are all specific diseases and produced by definite living germs, each one propagating only its own kind, it follows as at least a probability that each one may be successfully treated with some form of serum, vaccine or bacterin administration. As a matter of fact, this form of treatment has been developed and is being employed with success in some of the acute infections; in others it is being developed and is now on trial; while in still others the specific germ has not yet been isolated and no progress has been made at the therapeutic end of the problem, though even here it seems likely that the near future will see great progress in this direction. Thus, vaccination was first employed in smallpox, antitoxin has won its greatest laurels in diphtheria, bacterins are used with considerable success in typhoid fever, while in measles, up to the latest of my information, the microorganism had not yet been discovered.

Four Different Methods of Treatment

We find, then, four different methods of treatment that are common to most or all of the acute infections; these being: the defervescent treatment, the eliminative treatment, the antiseptic treatment, and the biologic treatment. And it seems to me that you can get a more practical knowledge of this subject, that you will be better prepared to treat these cases when you meet them in your practice, if you will familiarize yourselves with the general nature and specific applications of each of these different methods as well as the class of cases to which they are adapted, once for all, rather than to take up the individual diseases separately and learn a separate treatment for each one.

By this I do not mean to teach you that any two of these diseases are to be treated in the same way, or even that any two cases of the same disease are to be so treated; but only that there are certain general principles and conditions which are the same in each, and these may be learned once for all.

You will be struck by the fact that these four forms of treatment are in general the same as those which I presented to you the other day in speaking of the treatment of typhoid fever. This arises from the fact, to which I have already alluded, that typhoid fever, strictly speaking, is a member of this class, an invasion, an acute infection. As a matter of convenience and because of its great importance, it has been considered by itself. But the general principles are the same as in the other members of the class.

In addition to the four forms of treatment already referred to, it is necessary to make mention of at least one other, namely, symptomatic treatment. In this, as a sort of miscellaneous class, we may place all the measures and remedies not already enumerated that are required in the treatment of special symptoms, and which may or may not occur in any of the cases mentioned; which, though, when so occurring, are in the main not essential but only incidental to the disease considered.

Symptomatic Treatment

An illustration of this is found in the use of morphine, which may be called for in almost any disease, at times, for the relief of severe pain; but it is really no part of the treatment of the disease, being employed only for the relief of a symptom. Under this head, we use also heart and nerve stimulants and sedatives; remedies to aid digestion and improve nutrition; remedies that relieve local anemias and congestions, either by local or general action; and remedies that attack local foci of disease.

We will now proceed to take up a few of the diseases individually, but only very briefly.

My aim is not to exhaust the treatment, but only to suggest a few remedies for special diseases, and leave the rest to be treated according to the general principles which we have already considered.

The Treatment of Measles

Rubeola, or measles, is perhaps the most common and one of the most contagious of the eruptive fevers, few children escaping it. The symptoms and diagnosis are important, but it is not for me to dwell upon these. The first essential of treatment is, to begin early. The second is, to have full control of your patient and the family. Given these two things, and the responsibility is yours. Failing of these, the responsibility is divided, as is equally the probability of recovery.

Treat the fever on general principles. Keep the bowels open and the intestinal canal reasonably aseptic. Saturate the patient with calcium sulphide. I shall give this last advice so often, it may be well to tell you just how to proceed.

In the first place, you must remember that calcium sulphide is a somewhat unstable drug and that many of the preparations on the market are utterly without value, because of the fact that they have lost their strength. No preparation which does not reveal itself by the smell of sulphureted hydrogen soon after it has been ingested, is of any medicinal value whatever. So, when you are taking either the granules, pills or tablets of this substance, if you do not smell "rotten eggs" shortly afterward, your drug is of little value. As a matter of fact, judging from what information I can obtain, much of the calcium sulphide sold is of little value. This fact accounts for the widely differing opinions of different physicians concerning the value of this drug, some being enthusiasts in its favor, others declaring that they have never found it of the slightest value.

The very first thing, then, is, to be sure you have a good drug. Some coated tablets keep their strength fairly well, but the granule seems to preserve its virtues better than other pharmaceutic forms.

My own experience has been mostly with 1-grain tablets and 1-6-grain granules of proven reliability. Of these, the granules undoubtedly are to be preferred, and a 1-6-grain granule taken every hour will do more than a 1-grain tablet every four hours. Nevertheless, since many adult patients, especially if not seriously ill, will not take a small granule every hour, when they will take a large tablet every four hours, we sometimes must give the tablet or else order several granules at a single dose. But, whichever preparation is employed, be sure that it is active—that is to say, that it "smells the real thing."

Whether or not the use of this remedy previous to exposure will render one immune to the disease, I am not prepared to say with any degree of certainty. I do believe, however, that such a saturation established either previous to exposure or during the stage of incubation would either prevent, abort or largely modify the symptoms of the disease; and I should use it with confidence for this purpose.

In addition to this use as an antiseptic, the sulphide of calcium is also the best remedy for the cough of measles, which is hard, harsh, and hoarse. Indeed, for this kind of cough, no matter in what disease it occurs, there is no better remedy than calcium sulphide. Here the granules may be given every one or two hours or the tablets every two to four hours.

At the same time you are prosecuting the germicidal treatment look out for elimination, by giving 1-10-grain calomel every half hour for ten doses, following this in an hour with the proper dose of saline laxative. If there is obstinate constipation or intestinal autointoxication, add to the calomel an equal quantity of podophyllin or else use the compound granule containing 1-6 grain each of calomel and podophyllin, giving six doses only. Repeat the saline laxative, if necessary, in an hour or two, until free movements result. Or it may be advisable to given an enema.

Meantime the child should be bathed in a carbolized solution of epsom salt, made by dissolving an ounce of the salt in a quart of hot water and adding 10 minims of carbolic acid. This is an excellent lotion to use for sponging the patient in all cases of the eruptive fevers, these bathings to be repeated once or twice daily throughout the course of the sickness.

Aconitine may be prescribed for the fever, in the usual doses. That is to say, to 24 teaspoonfuls of hot water in a cup, add 1 granule for each year of the child's age and one additional granule. This is the general rule for active-principle dosage in the case of children, and is known as Shaller's rule. The frequency of the dosage is regulated by the heighth of the fever, the aim being to keep the temperature below 102 degrees. But, when elimination and antisepsis have been carefully attended to, in a large proportion of the cases the fever will be but slight

and little, if any, treatment for it will be needed.

In the case of children, some practitioners prefer to substitute gelseminine for aconitine when there is present the special indication for the former remedy, namely, a flushed face, bright eyes, contracted pupils, and increased heat of the head. When this is prescribed, the same rules as to dosage prevail.

Except in severe and long-continued cases, it is seldom necessary, when dealing with children in these diseases, to resort to the combination known as the trinity and the defervescent granules.

When the eruption does not come out promptly, a hot bath, hot drinks, sponging with water containing mustard, or hot-packs on the chest will usually aid materially in producing the desired result. This is important, as there is always danger in the delayed eruption.

The mouth, nostrils, and throat should be cleansed carefully with some alkaline antiseptic solution and the ears syringed with warm boric-acid solution once or twice a day.

The bronchial symptoms may be largely controlled by means of inhalations, once in four hours, of a medicated vapor made by adding 20 drops each of oil of eucalyptus and oil of turpentine to a quart of boiling water.

The diet should be light, consisting mainly of broths, gruels, fruit-juices, and the like.

Special symptoms must be met as they arise.

The Treatment of Scarlet Fever

Here again the standard antiseptic is calcium sulphide, and this should be given, not only to the patient, but to all exposed persons who have not had the disease. My own experience has convinced me of its great value. I will mention but one instance.

A woman of thirty-five was taken down with scarlet-fever, which ran a fairly typical and moderately severe course. During her illness, the house was strictly quarantined, and in it, besides herself, were confined her husband, her own little daughter of seven or eight years, and her husband's sister—none of whom ever had had the disease.

From the very onset of the disease, I saturated all four persons with calcium sulphide, in the manner described under the head of measles. The smell of the sulphureted hydrogen gas was obvious in the breath of each one—and this is essential to securing the desired results. This treatment was continued until the patient recovered and the quarantine was removed. Neither of the exposed persons contracted the disease. This perhaps was not strange in the case of the adults, but that the child should escape certainly is suggestive. The three well persons in the house went freely in and out of the room where the sick woman was confined, no restraint being put upon them.

I am aware that this one case proves little or nothing. Still, as one of a considerable number of similar cases occurring in my own practice and in that of my friends, it serves to confirm me in placing much reliance upon this drug as a preventive of scarlet-fever and to think that perhaps it acts the same in the other contagious fevers—though my experience with the latter has been less extensive in this respect.

Another method of prophylaxis worthy of trial and likely to prove of value, although it has not as yet won general adoption, is the use of the scarlatina prophylactic bacterin. Further experience with this is desirable.

The treatment of the disease, when developed, is similar in some respects to that of measles. However, here the temperature is higher and the general symptoms are more severe, while the local symptoms call for close attention.

Carbolated epsom bath and general antiseptic treatment are of value here as in measles. The mouth and throat should be sprayed or gargled freely with a solution of Seiler's tablets, glycothymoline, listerine, or some similar preparation, in proper dilution. Anointing the entire body with cacao-butter or camphorated oil does much to relieve the extreme itching; also to lessen the contagiousness, if, as is generally taught, the contagious element is found in the scales which flake off the body. Intestinal antisepsis may be observed, with good results, from first to last. When desquamation is complete, the patient should take a hot bath in a 1 : 10,000 solution of corrosive sublimate, then put on sterile clothing; while the rooms must be disinfected with formalin gas.

The Treatment of Diphtheria

Diphtheria is due to the Klebs-Loeffler bacillus, and this malady, previous to the discovery of antitoxin, was the most dreaded of all the acute infections. But now it has been largely shorn of its terrors, thanks to the antitoxin, and is now less to be feared than scarlatina or measles.

You whose memory does not reach back beyond the days of antitoxin cannot realize the wonderful change which this remedy has brought about in the prognosis of this disease. For myself, I well remember my first experi-

ence with it, and the radical transformation it wrought in my own outlook.

It was in the afternoon of December 27, 1895, when an Italian girl seven years of age was seen by a brother practitioner and, being found to have well-marked diphtheritic membrane in the throat, was duly reported to the board of health. As this physician was called away that night, he left the patient in my charge. When I saw the girl the next morning, I found her throat literally filled and packed with diphtheritic membrane and realized at once that, situated as she was and good caretaking impossible, there was almost no chance for her recovery with the usual treatment.

Antitoxin being a new remedy and much praised, I determined to try it; but, the next day being a holiday, I had great difficulty in getting the antitoxin from Boston. However, I finally succeeded, and at 7 o'clock in the evening I injected 1000 units of the remedy; this being the dosage then prescribed. That was Thursday evening. On Sunday morning the child's throat was entirely free from false membrane and she was sitting up and writing on her slate. On the following Tuesday recovery was nearly complete and I paid my last visit. This result cannot seem as marvelous to you as it did to me at that time; for, you are used to seeing diphtheria treated in this way, and with similar results, while I at that time was not.

The general experience with antitoxin therapy—and which should guide us—is that, if given on the first day of the disease, the mortality is almost *nil*, while for each day wasted the death rate is largely increased. Another score for the early beginning of treatment.

Along with antitoxin, the usual antiseptic precautions should be scrupulously observed, not only as to the patient, but for the furniture, rooms, and all individuals. All exposed persons should be immunized by receiving a minimum dose of antitoxin. Use the concentrated antitoxin (globulin solutions) only.

Internally, calcium sulphide, echinacea, nuclein, and iodized calcium are valuable remedies; and right here I want to add that while antitoxin is the specific remedy for diphtheria, there are many other useful remedies that should be used to meet special indications, some of which have just been mentioned. Of special importance is attention to the heart, which suffers severely. Watch it carefully, giving strychnine, digitalin, and other remedies as indicated.

The principal source of infection is the diphtheria "carrier"—the individual who has had diphtheria (perhaps in such a light form that it was not properly diagnosed) and still harbors the Klebs-Loeffler bacillus in his throat. After clinical recovery *be sure* that the throat is free from this germ. If it lingers, clean it up by using sprays containing suspensions of the bacillus bulgaricus. The same local treatment is useful during the course of the disease; but, of course, no antiseptics should be used when these cultures are employed locally.

In diphtheritic croup, intubation or tracheotomy sometimes becomes necessary. My only fatal case of diphtheria treated with antitoxin was one of laryngeal croup. In cases of croup which is not membranous, iodized calcium proves successful in nearly all cases.

The grip, or influenza, is a disease of many forms and a great variety of symptoms. The violence of the disease may fall upon almost any of the organs or systems of the body. The most common form is that in which the respiratory organs bear the brunt of the attack. Or, this may fall upon the digestive organs or upon the nervous system. Probably these three are the most common forms.

But when you have learned the grip from one angle—how it looks and how to deal with it—it is likely, in the next case to which you are called, to strike in a new way and at different organs; so that it is really a difficult matter to get on intimate terms with this protean monster. It is not a pleasant matter, either. And when there are so many forms and such varying symptoms it is not strange that the treatment varies greatly with different men and that there is as yet no general agreement.

Nevertheless, in all its forms, there is one invariable characteristic of influenza, and that is the great depression. If there is a weak spot in the system, the grip is sure to find it out and force an entrance at that spot. I might go a step further and say that, if there is no such weak spot when the grip attacks a man, there is sure to be such a one when it leaves him. Therefore, every form of treatment should aim at supporting the patient; the vital powers must be sustained in every possible way. Beyond this, the treatment is largely symptomatic.

Alcohol, opium, and all narcotics are to be avoided, because of their secondary depressing effects. Also the coal-tar products are looked upon with suspicion by the best

therapists. Strychnine and digitalin frequently will be found necessary.

For the fever, I have no better plan to offer than the usual dosimetric method, with which by this time you ought to be getting somewhat familiar. Aconitine in the early stages perhaps, but more likely the trinity granule from the beginning. Always fortify the heart. Do not wait for the symptoms of depression to manifest themselves, but anticipate them and think yourself fortunate if you are able to forestall them.

Heat is a valuable adjunct to the treatment. The hot bath, hot-water-bags, hot drinks, hot capsicum-tea—all these are good.

Rest in bed is essential while the extreme depression lasts; and this is true in all forms of the disease.

Highly nutritious and easily digested food, such as turtle-soup, clam-broth, raw oysters, milk and eggs, fruit-juices, coffee, and the predigested foods, may be given in small quantities every two or three hours and pushed to the limit of the digestive capacity.

In the respiratory form of the attack, it is well to syringe the ears and irrigate the nasal passages with the alkaline antiseptic solutions, and to spray the nose and throat with campho-menthol or a standard antiseptic oil. Cresoline, oil of eucalyptus, and similar substances may be vaporized, to fill the room with antiseptic vapor. For internal use in this form of influenza, iodized calcium is an especially valuable remedy.

Another peculiarity of grip is that it is liable to lead to all sorts of complications. One of the most common and dangerous of these is pneumonia—and the pneumonias of influenza are mixed infections, and always dangerous.

We are still lacking in the knowledge of any specific antiseptic. We cannot yet with confidence attack the bacillus of influenza, either with a chemical product or with a bacterial vaccine. These things will come, we confidently hope and expect; but as yet the treatment is largely symptomatic. Grip is a tricky devil, and the best way to meet him is to be clothed in the armor of good health and be guarded by the best of care; and, if attacked, to give support at every avenue.

To recapitulate briefly:

In an epidemic of grip or when exposed to conditions which favor its approach,

1. Live simply, guarding your health on every hand; especially, look out for colds, be careful of your diet, and spare your nerves.

2. If attacked, eliminate poisons and tissue waste by means of the usual measures in those circumstances; support the system by proper nourishment and tonic medication; treat symptoms as they occur; avoid anodynes and narcotics.

3. Look out for complications.

Much more might be said, both of this and the other diseases of this class, but the hour is up and I must postpone further discussion until the next time.

A JUNE SUNRISE

BY JOAQUIN MILLER

The east is blossoming! Yea, a rose,
Vast as the heavens, soft as a kiss,
Sweet as the presence of woman is,
  Rises and reaches and widens and grows,
Large and luminous up from the sea,
And out of the sea, as a blossoming tree,
  Richer and richer, so higher and higher,
Deeper and deeper it takes its hue;
Brighter and brighter it reaches through
The space of heaven and the place of stars,
Till all is as rich as a rose can be,
  And my rose-leaves fall into billows of fire.

The Therapeutic Use of Living Bulgarian-Bacillus Cultures

By J. FAVIL BIEHN, A. M., M. D., Chicago, Illinois

LIVING cultures of the bacillus bulgaricus have now been firmly established as one of our most efficient remedial measures. This organism was first isolated in Massol's laboratory by Grigoroff, after which it was brought to the attention of Prof. Elie Metchnikoff, and the latter, quickly foreseeing its possibilities, took up the study of this ferment and popularized its use, both as a hygienic aid and a therapeutic agent of vital importance.

Two known varieties of this organism are recognized, known as type A and type B. Type A, so far as I am able to determine in a clinical way, produces better results. However, in order to utilize this organism intelligently it is absolutely essential that at least some of the main facts of its biology should be thoroughly understood.

The bacillus bulgaricus is one of the lactic-acid ferments, but it produces a very much higher percentage of lactic acid than does the ordinary lactic-acid bacillus found in sour milk; the reason for this being that it is capable of withstanding and thriving in a higher percentage of the acid which it generates. The true bacillus bulgaricus A, under favorable conditions, produces on an average 4 percent of lactic acid. It is because of its ability to withstand acid that it is capable of passing through the normal gastric-digestion processes unharmed. Ordinary lactic-acid bacilli are far less resistent to acid, hence, unless a person ingesting them is suffering from marked gastric derangement characterized by anacidity and fermentation, they will be destroyed by the normal hydrochloric acid of the gastric juice; and so, they cannot exert any action in the intestinal canal, which they do not reach alive.

The Bulgarian Bacillus a Prolific Acid-Producer

The bacillus bulgaricus will not grow at the ordinary room-temperature as do the common lactic-acid bacilli; but it will grow at body temperature, and more readily at 110° to 114° F. Therefore, if this organism is to be used for the souring of milk (that is, for making the socalled bacillus-bulgaricus buttermilk) the liquid must be maintained at or above a temperature of 98.6° F., in order that this organism may develop. This is the principal drawback to the preparation of buttermilk in the home by means of this particular organism. Moreover, the Bulgarian bacillus does not thrive in the ordinary laboratory culture-media, growing only very sparingly; a fact which, unfortunately, precludes the possibility of the ordinary everyday physician preparing and maintaining pure cultures.

The bacillus bulgaricus A does not produce spores, and, varying according to its environmental conditions ordinarily retains its vitality for from ten days to four months. Under the most favorable circumstances, such as in a tablet that has been dried in a vacuum at a low temperature, the organism has been known to remain alive for nearly a year. Of course, in tablets kept for such prolonged periods, the number of viable organisms continues to decrease constantly. This bacillus growing equally well as an aerobe or as an anaerobe, it is therefore eminently suited for nternal administration.

Experimentally it has been found that, whether owing to the excessive amount of acid produced or to some other inherent property of which as yet we have no knowledge, the bacillus bulgaricus prevents the multiplication and even causes the destruction of other microorganisms, when associated with them in a suitable environment. Because of its ability to pass through the stomach unharmed and because it multiplies at or above body-temperature, and tends to destroy or at least inhibits the growth and activity of other bacteria, especially certain pathogenic varieties, this ferment has found useful therapeutic applications in a multitude of pathologic conditions.

My Main Reliance in Gastroenteritis in Children

The exhibition of living cultures of bacillus bulgaricus A (both in tablet and liquid or bouillon-culture form) for three years has been my main reliance in the treatment of gastroenteritis in infants. The children in the cases that I have seen varied from three to four and a half years of age. Under ordinary circumstances, as these cases are seen by the average practitioner, the mortality should not be over 4 percent when this treatment is employed; in fact, a number of observers have reported several hundred consecutive cases without a single death.

These children not only react to this bacillary treatment very rapidly, but in spite of from four to twenty bowel movements a day they generally continue to gain in weight. Originally, after an initial purge—preferably of calomel followed by castor-oil or a laxative saline—I placed the sick baby on a starvation-diet for forty-eight hours. Then I started with the bacillus bulgaricus. Now, however, even in the highly toxic cases, in which the temperature is subnormal, where the patients evidently have little or no reactive vitality remaining I do not resort to the starvation diet, but order a continuation of the breast feeding or of the modified milk, or whatever food the child may be receiving; provided, of course, it is proper food for the child.

If I prescribe the bouillon-culture, it is added directly to the feeding. I believe, however, that equally good, if not better, results are obtainable from the tablets, provided they are not too old and are efficient, i. e., contain living, viable bacillus bulgaricus. Indeed, it has seemed in some cases that better results followed the use of the tablets than of the bouillon-culture; but, if with the bouillon-culture a certain proportion of milk or, better, milk-sugar, is administered, there appears to be no difference in the results.

The stools usually return to normal consistency and color within forty-eight hours. The child sleeps and eats; also, the temperature usually becomes normal at about the same time, although occasionally it may persist for three or four, or even for five days. I have seen cases, however, in which the blood and mucus and green liquid stools persisted for as long as seven days after the treatment was started.

These patients practically all gain in weight immediately. Further, very frequently a child that has been on a set diet without gaining in weight and develops gastroenteritis, when put upon treatment with living bacillus bulgaricus cultures and continuing the same diet, not only will recover from its gastroenteritis, but will gain in weight as well.

In very severe cases, where there is considerable blood in the stools, I have, in addition to the treatment here outlined, successfully employed high enemas of olive-oil, followed by plain lukewarm water. I may add that the action of the bacillus bulgaricus seems to me to be far more rapid and much more favorable in those cases in which the small intestine is involved.

In the adult, the absorption of toxic products from the intestinal detritus results in a peculiarly vicious train of symptoms, most of which have repeatedly been set down in the many articles that have appeared upon this subject. I find, however, that most of these cases that are markedly benefited by bacillus bulgaricus medication show, first, insomnia. Whether or not this is owing directly to the fact that absorption of toxins is greater at night than in the daytime, I do not know; still, it is a definitely established fact that the majority of these patients show more indican in the night urine than in that of the day; while very frequently indican will be present in the first urine voided in the morning, but not found at all in that voided in the course of the day.

Many of these patients suffer from alternating constipation and diarrhea, and it will be noted that during the period of constipation there is more or less periodical rumbling of gas, which usually is sufficiently marked to be noticed by the patient. These patients, as a rule, do not masticate their food, usually are heavy meat eaters (and I believe fresh pastry has an equal value as a causative factor with meat), and many of them are inclined to the use of malt liquors.

Treatment of Adult Intestinal Disorders

In treating these individuals, the initial cathartic always is essential, while the treatment itself may consist either in the exhibition of bacillus bulgaricus bouillon (which may be given after breakfast, alone, because of the usually high starchy content of this meal) or after each meal; or, in the exhibition of tablets, from which equally good results are obtainable. These I give, as a matter of routine, three times a day, generally ordering from four to six at a dose.

The diet should be regulated, and especially should meat and fresh bread be interdicted. If the patient is addicted to the use of beer and other malt-liquors, these should always be prohibited. In my experience so far, light wines are not contraindicated. If the patient be suffering from the socalled bacillary diarrhea, due to the Shiga bacillus or some correlated organism, I prefer the bacillus bulgaricus buttermilk, and let that be the sole diet of the patient for some time. For the average individual, however, this is not sufficiently nourishing, and many soon tire of the buttermilk; so that either the liquid culture or the tablets are usually preferable.

The Spray in Infections of the Air-Passages

Aside from the use of the bacillus bulgaricus in intestinal derangement, both in infants and adults, a large measure of success is obtainable

from the use of the bouillon-culture in various affections of the exposed mucous membranes. I have used the culture in nearly one hundred cases of diphtheria-carriers, most of whom were referred to me because of the persistence of diphtheria bacilli and the maintenance of quarantine.

In these cases, the liquid culture, full strength, is sprayed into the nose and throat every four hours. No other treatment is used. Originally I sprayed only the throat, but there were frequent relapses, owing to reinfection from the nose. It is very essential, therefore, that the nose as well as the throat be thoroughly sprayed. This treatment has cured, in my hands, from fifty to sixty percent of cases of ozena, some cases, however, requiring as much as six months before they yielded. In some cases, I was unable to obtain lasting results, although this treatment gives relief from the subjective as well as the objective symptoms as long as it is persisted in.

Superficial inflammation of the tonsils and pharynx, especially after the acute stage has passed, virtually always is markedly benefited by this spray treatment. The use of antisepsis upon the mucous membrane of the throat results only in a very superficial inhibitory action, and usually is only sufficient to prevent the multiplication of those bacteria in which intimate contact is obtainable. They are not capable of destroying the bacteria unless used in concentrated form, and then they tend to produce coagulation of the exudate, with the result that their action is limited to the surface only. The bacillus-bulgaricus bouillon, however, does not produce coagulation; it is the introduction of a living germ, inimical to other organisms, upon a surface where conditions are favorable for its development which makes it valuable; and to my mind, this is the rational treatment of such affections.

Useful Also in Furunculosis

In the treatment of furunculosis, I formerly used 70 percent alcohol as a wet dressing, with considerable success. Now, however, I use bacillus-bulgaricus bouillon, and wherever drainage is instituted in any of these cases the drain is saturated with this culture. So far as I am able to determine from clinical experience, the results in many cases are such that this method appears to be preferable to the alcohol dressing after the abscess has been opened.

I have also used this organism, and suggested its use to many others, in the treatment of middle-ear disease, in conjunction with bacterins. It is essential in bacterin treatment that there be free drainage, and the bacillus-bulgaricus bouillon may be utilized in the treatment of discharging ear conditions to much better advantage than antiseptics, which must either be used in sufficient concentration to sterilize the site, thereby destroying tissue, or be of practically little or no avail. The bacillus bulgaricus, on the other hand, does not destroy tissue, is perfectly harmless, and, yet, highly efficient. There are absolutely no contraindications to its use in any of the conditions above mentioned.

Bacterin Therapy in Everyday Practice

By W. C. WOLVERTON, M. D., Linton, North Dakota

EDITORIAL NOTE.—Last month Doctor Wolverton began a new series, one that we think will prove very popular with our readers. In telling us about bacterin therapy he begins at the beginning. Read his first paper, if you have not already done so, then continue the story in this issue. Do not lose a single number of this series.

II. Vaccines in Acute Infections.

THE acute infections form a very large proportion of the general practitioner's work. Their mortality rate is high and complications are frequent and often grave in character. Their onset is sudden, their course rapid and stormy; so, it behooves us to attack them promptly, and with effective weapons. And here, surely, we may "fight the devil with fire," said fire being represented by the bacterins.

It has been argued, on purely theoretical grounds, by some ultra-scientific laboratory-workers, that bacterins are contraindicated in acute conditions, because the patient already is overwhelmed by living pathogenic bacteria and their toxins; and that the subcutaneous injection of bacterins only adds to the existing toxemia, thus hindering, rather than assisting, the natural immunizing mechanism in its efforts to combat the invading bacteria.

However, extensive clinical observation does not bear out this view. The number of *killed* microorganisms and the amount of their toxins in a *therapeutic* dose of a properly chosen bacterin is so small, comparatively, as to become negligible when one considers the countless myriads of *virulent, living* germs concerned in the infection. Victims in so many apparently hopeless cases have recovered, in which a dose of a stock bacterin has been administered as a last-resort measure, that one certainly is not justified in condemning the bacterins in acute microbic processes on purely theoretical grounds and without first giving them a thorough *clinical* trial.

And, after all is said and done, the proof of the pudding is in the eating; and the proof of the effectiveness of reliable stock bacterins in the acute infections lies in the number of *cures* effected in cases where we *know* that the classical treatment is hopeless.

However, the bacterins should be given *as early as possible* in these acute infections, in order to be effective, and not reserved for patients *in extremis*. Nor are they to be used to the exclusion of time-tried remedies, such as the active principles of drugs; it is well to hold fast to the old-time friends, reinforcing them with the new ones that are daily proving their worth.

The Author's First Experience with a Bacterin

It was in an acute infection that the writer, on January 18, 1911, administered his first dose of a bacterial vaccine. A German-Russian farmer, 30 years of age, had been confined to bed eight days by an attack of acute rheumatic polyarthritis. The wrists, knees, and ankles on both sides were affected. There was a bad mitral valve lesion, the sequel of a similar attack two years before. The man was coughing considerably and complained of substernal pain and oppression.

I had with me a mixed stock bacterin containing 20,000,000 streptococci and 30,000,000 pneumococci, and with this the patient was inoculated. Several capsules, each containing 0.5 Gram aspirin, were left, as were likewise some tablets of calomel and soda. The calomel was retained; but the first two doses of aspirin were promptly vomited, *and no more of it was taken*. So, whatever results were obtained may well be credited to the action of the bacterin.

A second visit was made twenty-four hours following the first, and the patient was found sitting propped up in bed, able to move his limbs freely and without pain; whereas twenty-four hours before he had been helpless, unable to move about in bed. The pulmonary symptoms had now disappeared. Forty-eight hours after the bacterin was administered, the patient, contrary to orders, sat up in a chair. Just five days after the initial dose of bacterin, the man drove to town, when a second (and last) dose of bacterin was administered, at my office, to prevent a possible recurrence.

The writer reported the above case, together with five others of a similar nature, in *The Medical Record* for October 28, 1911. Since that time, a considerable number of cases of the same disease have been treated with bacterins by the writer, and with uniformly satisfactory results. He has also recommended the treatment to a number of his friends in the profession, and they, too, heartily indorse it.

Results in Rheumatic Cases

Many of these "rheumatic" patients treated with bacterins experienced a pronounced amelioration of their symptoms (chiefly pain) within from three to twelve hours; and virtually all of them were greatly improved within twenty-four hours.

In the beginning of his experience with these cases, the writer used a straight streptococcus-pyogenes bacterin, believing then, as he still does, that the socalled "inflammatory rheumatism" is caused by some member or members of the streptococcus group of pathogenic bacteria. But, as pointed out by the writer in the paper above referred to, there was considerable evidence that under varying conditions of nutrition, environment, and so on, the phenomenon of "pleomorphism" took place; that is to say, the streptococcus might become transformed into a diplococcus (e. g., the pneumococcus), or vice versa. This no longer is a theory; and it has even been shown that bacilli may become cocci, and vice versa.

On the strength of this evidence, and also because it has been demonstrated that there are few if any "pure infections" in which only one variety of microorganism is found, but, rather, that a mixture of several varieties is almost invariably found, the writer, during the past two years, has employed in these cases a mixed stock bacterin containing the streptococcus, pneumococcus, staphylococcus aureus and albus, and the colon bacillus. This mixed bacterin is commonly known as the Van Cott mixture, and it is with such a mixture that Van Cott and Polak have been having such remarkable success in treating

puerperal sepsis, in its various forms, at the Long Island College Hospital.

Some of the partisans of autogenous vaccines have derisively referred to such a bacterin as the above as a "shotgun mixture," likening it to the old-time prescription in which a great number of drugs, ofttimes antagonistic in their action, were given together, fervently hoping that, if some of the ingredients failed to hit the therapeutic target, at least one of them surely would strike the bullseye.

This is an eminently unjust criticism, for a *therapeutic* dose of *any* bacterin *never* is productive of harm, even though the patient may not at the moment be suffering from an infection with the corresponding living germ. Besides causing the generation of "protective substances," the injection of a dose of bacterin usually leads to an increase in the number of the white blood-corpuscles (leukocytosis); and it seems probable that the injection of a variety of killed bacteria would lead to the establishment of a higher degree of leukocytosis than that caused by the injection of a single variety. And we know that immunity depends very largely upon the phagocytic (cell-devouring) activities of the leukocytes.

Stock Bacterins Are Useful in Emergencies

Besides, in this very class of cases—the acute infections—early administration of the bacterin is the most essential factor in successfully combating the disease. Many a time the patient might well succumb to his infection while an autogenous bacterin were being prepared, for this requires full two days, under the most favorable circumstances, where a well-equipped bacteriological laboratory is close at hand.

But, it is to the general practitioner that this paper is directed; and the general practitioner usually is at a considerable distance from such a laboratory. Then, too, it often is impossible, even under the best of conditions, to arrive quickly at a definite bacteriological diagnosis; so that quite often, while we strongly suspect some particular "microbe" of being the chief, if not the sole, offender, we can not bring positive proof against it. In such cases, it certainly is the rational thing to administer a mixed stock bacterin containing those varieties of microorganisms which clinical experience has shown to be most often implicated in similar conditions.

To illustrate: Clinical experience and the bacteriological findings have demonstrated that the causative bacteria in tonsillitis (excluding those cases due to the diphtheria bacillus) are the streptococcus and the staphylococcus aureus; lobar pneumonia, to the pneumococcus, with the streptococcus as an able accomplice; bronchopneumonia, to the pneumococcus, streptococcus, and the staphylococci; "common colds," to those just mentioned under bronchopneumonia, with the addition of Friedlaender's bacillus and the micrococcus catarrhalis; puerperal sepsis, to the streptococcus and colon bacillus; corneal ulcer, to the pneumococcus; otitis media (purulent), to the pneumococcus, streptococcus, and the staphylococci, with the occasional addition of the bacillus pyocyaneus; and so down the list.

With a very little study, even though he may have had no bacteriological training while in college, the general practitioner may in a short time sufficiently familiarize himself with the usual haunts of the various pathogenic bacteria to be able to fit intelligently his bacterins to the individual case.

Bacterins in Pneumonia

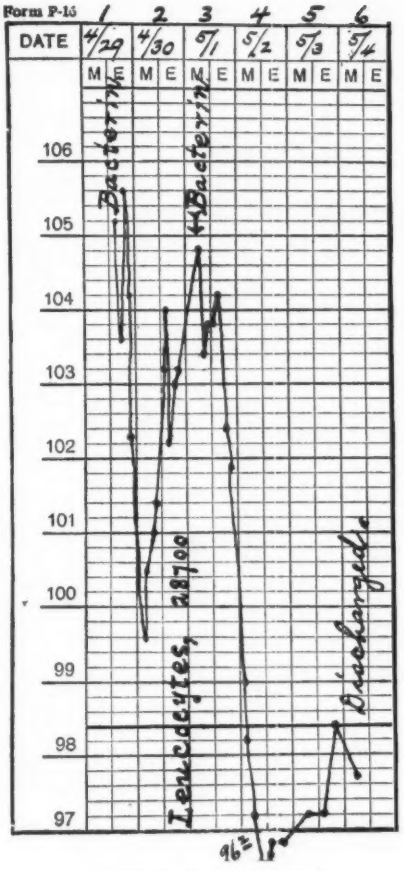
In spite of the multitude of "treatments" elaborated for his undoing, Pneumonia remains the "boss killer" in his season. A few years ago, the writer believed that it would be a long time before any line of treatment would be evolved that would be superior to a routine of aconitine, veratrine, digitalin, strychnine, calomel, inunctions of guaiacol and camphorated oil, a cotton-lined jacket, besides a few other remedies for individual cases, as the need might arise. However, since adding the employment of bacterins to the foregoing line of treatment, his results have been infinitely better, and he has lost but one patient suffering from this disease; and in this fatal case the environment was such as practically to preclude recovery under any form of treatment. Recently he has had under care at one time eight patients with pneumonia, and all recovered under treatment with bacterins, in conjunction with the usual indicated remedial measures.

On April 29, 1914, the writer first saw a case which well illustrates the possibilities of the bacterins in pneumonia when the doctor is called reasonably early. She was a Scandinavian girl of twelve years. A little over two months ago she underwent an operation, under the writer's hands, for the removal of a gangrenous appendix. She was anemic and in very poor physical condition at that time; but, with the "Murphy drip," Fowler position, free drainage, and the administration of the "Van Cott" bacterin, she made a good

recovery, leaving the hospital three weeks after operation. On April 29, the writer was called to see her, when he found her with a well-developed pneumonia of the right lower lobe. Temperature was then, at 3 p. m., 105.2 F.; pulse, 132; respiration was not counted, but was very rapid and shallow and accompanied by severe pain in the right side of the chest. She had had the initial chill and "pain in the side" that same morning, some seven or eight hours earlier. She was coughing frequently and expectorating blood-streaked sputum. There was dulness over the entire right lower lobe. Her stomach was very irritable and she vomited all medicine given by mouth.

A dose of a stock bacterin containing 24,000,000 killed pneumococci and 18,000,000 killed streptococci was administered at 3 p. m. Within an hour or two, the temperature fell 1.6 degrees, but rose again to 105.6 at 8 p. m. Then the temperature began steadily to fall, reaching 99.6 at 5 a. m., with a pulse of 100. Next day, May 1, the morning temperature had reached 104.8 degrees and the pulse was 115. A second dose of bacterin, identical with the first, was now injected, whereupon the temperature began to fall within five hours, and went down uninterruptedly, reaching 96.2° F. at noon of May 2, only seventy hours after the administration of the first dose of bacterin. The temperature was normal on the third day of the disease, and remained so, the patient being discharged and returning to her home on May 4.

The accompanying chart shows graphically several things: (1) The high temperature at the time of each inoculation with the bacterin; (2) the sudden drop of 1 to 1 1-2 degrees quickly following the inoculation, with as rapid return to about the original level, this marking the brief negative phase; (3) the steady and continued drop in temperature, immediately following the short negative phase, characterizing the positive phase; this drop amounting, in the first instance to 6 degrees, and in the second, to 8 degrees; (4) the gradual return of the temperature to near its former level, as the response of the immunizing mechanism to the bacterin wore off; and the protective substances elaborated, consequent upon the inoculation, were used up in the war upon the invading bacteria; this being the indication for another dose of bacterin; (5) the typical crisis following the second inoculation, the temperature going considerably subnormal and not rising above the normal thereafter; in many cases, following the use of bacterin



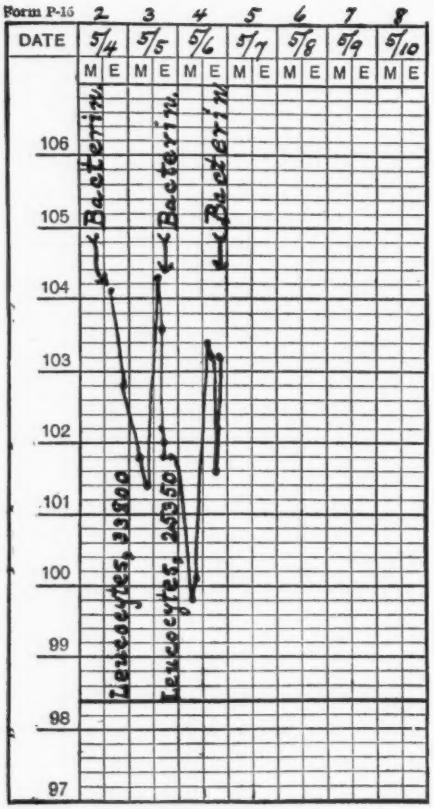
Temperature chart—child of twelve

in pneumonia, the typical crisis seen here is absent, the disease ending by lysis.

Two More Cases

Another illustration. A German-Russian boy of thirteen years entered the writer's private hospital on April 16, 1914. Another physician had made a diagnosis of ruptured appendix, and advised immediate operation. Careful physical examination, however proved negative as to the abdomen, the tympanites and abdominal pain being caused by a collection of fermenting undigested sauerkraut in the colon; all abdominal symptoms disappeared after the administration of an enema.

The real trouble turned out to be pneumonia of the left lower lobe. The temperature at the time of admission was considerably above 105° F. The chart of this case



Pneumonia—girl of thirteen

unfortunately has been mislaid, so the exact temperature cannot be given. The patient was extremely toxemic, being delirious a great deal of the time. This boy was in the fourth day of the attack when brought to the hospital; hence, "aborting" the attack was out of the question.

Three doses of bacterin were administered to this patient, at about 48-hour intervals; smaller doses were given than would have been used had he been seen earlier, the extreme toxemia being considered a contraindication to full dosage. A blood examination showed a leukocyte count of 44,600, with 95 percent polymorphonuclears; this blood-picture was the only hopeful aspect of the case. In spite of the late stage of the disease when the patient was first seen, and in the face of so extreme a toxemia and the existence of marked malnutrition, there was a very gratifying amelioration of the clinical symptoms following each dose of bacterin; the temperature in each instance would drop several degrees, the pulse slow down, from a rate of 130 to 150, to 100 to 110 beats per minute, and the mind would clear up completely for several hours. The disease finally ended by *lysis*, which I believe was greatly preferable, in this case, to the typical crisis, for the boy had a complicating endocarditis, besides being in an extremely weakened condition generally. There is little doubt that this patient would have died had not the bacterins been resorted to.

Another boy, also a German-Russian of eleven years, was brought to the hospital on April 19, 1914, about twenty-four hours after the onset of a typical pneumonia involving the left lower lobe. His case appeared to be one of average severity, his temperature being in the neighborhood of 103° F. at the time of admission. A dose of a stock pneumostreptococcus bacterin was injected, and, contrary to expectation, the temperature receded to normal within three days; the patient returning to his home on the fifth day after the onset of the attack.

One more case of lobar pneumonia seems worthy of note, and will be cited, to illustrate the action of bacterins in this much-dreaded disease. The patient is a German-Russian girl, thirteen years of age, who is at present under observation in this hospital. She was admitted on the afternoon of May 4, two days ago, at which time her temperature, as shown on the accompanying chart, was 104.1°, and a pulse of 140. She has a pneumonia involving the right lower lobe. About three weeks ago, she had a similar attack, involving the left lower lobe, for which she was treated by another physician, but who does not employ the bacterins in his practice. The case dragged along for quite awhile, and the girl had experienced only one good day when this second attack began, on the morning of May 4. The lung originally affected has not yet entirely cleared up, consequently the prognosis in this case was guarded at the time of the first examination, a little over two days ago.

A dose of bacterin containing 24 million pneumococci and 18 million streptococci was administered at 4 p. m. of the 4th, when a fall of not quite 3 degrees in temperature resulted (no antipyretic drugs were administered); but about twenty-four hours later the fever had reached its former level. Believing that in this instance the initial dose of bacterin had been too small to be productive of lasting good, a second dose, containing 32 million pneumococci and 24 million streptococci, was injected at 6 p. m. of May 5. This

morning (May 6) the temperature was 99.8° F.; pulse, 108. The fever then gradually rose, reaching 103.4° at 1 p. m. At 6 p. m., today, it had again begun to fall, owing, undoubtedly, to the development of a positive phase following the dose of bacterin given twenty-four hours ago. The time to give a dose of bacterin, following a prior dose, is before the positive phase excited by the prior dose has passed off; so, a third dose, containing 12 million pneumococci and 9 million streptococci, was injected at 7:40 p. m.

From present indications, there should be a normal or a subnormal temperature in this case within the next twenty-four to forty-eight hours. The reason for taking up this last case at such length is, to show that even in the most severe cases the bacterin not only is harmless, in therapeutic dosage, but causes a distinct amelioration in the clinical symptoms. These patients almost invariably will tell you of a feeling of wellbeing (euphoria) within twenty-four hours after each dose of bacterin has been administered.

Treatment in Bronchopneumonia

In bronchopneumonia, conditions are quite different from those characterizing lobar pneumonia, the former running a much more protracted course than the latter. Experience has shown that bacterin-therapy is wonderfully efficient in shortening the course of bronchopneumonia, when used in connection with proper attention to hygiene, the use of the defervescent active principles, hydrotherapy, and so on. The writer has seen a number of cases of bronchopneumonia in which a single dose of a stock bacterin containing the pneumococcus, streptococcus, and the staphylococci has been productive of a cure within a gratifyingly short time.

The bacterin, in cases of bronchopneumonia, is best given in small doses, at two- to three-day intervals. One must be careful to give each succeeding dose before the good effects of the last preceding dose have disappeared; also, the doses must not be administered too close together, else a prolonged and, theoretically, harmful negative phase might result, although the writer, in an experience with the bacterins covering over three years, has never seen a harmful negative phase.

The subject of bacterins in acute infections us such a large one that we have been able to take up but three of these acute infections in the present paper; consequently, more will be forthcoming in the next paper of this series, dealing with other infections in which bacterins are indicated.

Refraction for the General Practioner

By THOMAS G. ATKINSON, M. D., L. R. C. P. (London), Chicago, Illinois

EDITORIAL NOTE.—Are you reading this series? If not, we advise you to do so. Doctor Atkinson is offering a means of financial betterment to those who will take advantage of this course, which gives the foundation facts essential to success in the fitting of spectacles. Wouldn't you like to do some of this work?

IV.

THERE are two general methods of detecting and estimating errors of refraction—the subjective and the objective. The subjective method depends upon the patient's own perception of images under certain predetermined optical conditions; the objective depends upon the refractionist's observation of certain phenomena under similarly defined conditions. It will be seen, therefore, that each of these methods has its advantages and its disadvantages; each its elements of trustworthiness and each its peculiar sources of error.

Strictly speaking, neither method is really objective, for in both the results are determined by subjective observation—in one instance, that of the patient, in the other, that of the operator. For, in the socalled objective tests, the results are not truly objective, that is, they are not the same irrespective of the operator's condition or behavior, but require certain physiologic states of the operator's visual faculties and judgment. Both methods, therefore, involve the personal factor to a large degree; one, the personal factor in the patient, the other, the personal element in the operator. Hence, it is best in all cases of refraction to employ both methods, so that the one may corroborate and correct the other.

Retinoscopy

I shall describe the objective method first. Practically speaking, there is but one objective procedure, and that is, retinoscopy.

The ophthalmoscope can hardly be regarded seriously in the light of an instrument of refraction. Its usefulness in refraction is limited to the bare disclosure of an error, and at that a very rough estimate of the relative extent of the error. It is of no value whatever in the accurate measurement and the lens correction of such an error. The real place of the ophthalmoscope is in the examination of the fundus, or retinal eye-ground, for evidences of disease. With the retinoscope, on the other hand, errors of refraction can be accurately measured and exactly corrected.

The retinoscope itself has already been described (see first article of this series). Its principle of action is, that it permits the rays emerging from the pupil of the subject's eye to be intercepted in their path by the observer's eye—a thing which cannot be done without some such contrivance. The sight-hole enables the observer to place his own eye in the path of the returning rays which the

Fig. 1. The Retinoscope

mirror throws into the patient's eye, and thus to receive them on his own retina. Ordinarily this is impossible; hence, the black appearance of every other person's pupil to our vision.

The light to be used in retinoscopy, and the conditions of the room, I also have described in my first article, to which the reader is here referred. The observer should seat himself a little more than 1 meter from the patient. The source of light (which should be as near to the mirror as possible), the observers' eye, and the patient's eye all should be on the same horizontal plane. The patient's accommodation must be thoroughly relaxed during

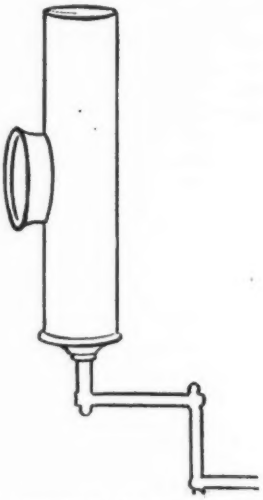


Fig. 2. Illustrates the kind of lamp for retinoscopy

the examination, either by means of a cycloplegic or else by some contrivance for fixing his vision upon some distant object.

Now, with the accommodation at rest, if the patient's refraction be normal, rays of light emerging from his eye will be parallel, and they will still be parallel when they reach the observer's eye at the sight-hole of the retinoscope 1 meter away. If the patient be hyperopic, then the rays emerging from his eye at rest will be divergent; and they will still be divergent when they reach the observer's eye. If, however, the patient be myopic, then the rays emerging from his eye at rest will be convergent; and in that case they may still be converging when they reach the observer's eye, or, if the myopia be sufficiently marked, they may have come to a focus or even have crossed by that time.

This, then, is the question which the retinoscope has to decide. At a distance of 1 meter, are the rays emerging from the patient's eye parallel, are they diverging, are they converging, have they come to a focus or have they crossed? How is this question determined?

The observer applies his right eye to the sight-hole at the back of the mirror and throws the reflected light from the mirror into

the patient's pupil. The observer's eye being now directly in the path of the returning rays from the patient's pupil, the fundus of the patient's eye is seen as a red glare, known as the fundus reflex. Now slightly rotate the mirror, with a twirling motion between thumb and finger, on its vertical axis and watch the patient's pupil. A shadow will be seen to

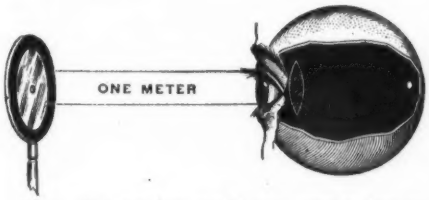


Fig. 3. Illustrates how parallel rays, emerging from an emmetropic eye, never meet, so that when they reach the retinoscope they are still uncrossed, causing the shadow to move against the mirror.

appear alternately from each side of the pupil and to move across it. As a fact, of course, it is not a shadow that moves at all, but the illuminated area of light made by the rays emerging from the pupil, but, as the shadow follows the image and is easier to see, we give our attention to the movements of the shadow.

Now, if the emerging rays have not yet met or crossed by the time they reach the observer's eye, the image and the shadow will move in just the opposite direction to that in which he twirls the retinoscope. In technical language, they will "move against the mirror." If they have met and crossed before they reach the operator's eye, the shadow will move in the same direction as the mirror is twirled; that is, it will move "with the mirror."

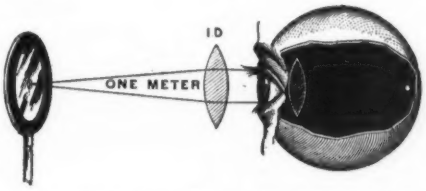


Fig. 4. Showing how parallel rays from an emmetropic eye are brought to a focus at 1 meter by a convex lens of 1 D., bringing the patient's point of reversal at the retinoscope.

Suppose we find that the shadow moves against. How then shall we determine whether the rays are parallel, divergent or slightly convergent. Well, the observer's eye is just one meter away from the patient's—as a matter of fact, a trifle more than one meter, but that is to compensate for the slight distance between the patient's eye and the lenses which we are going to put up before it. If the rays emerging from the patient's eye, therefore, are parallel, a plus-lens of 1 D. will exactly bring them to a focus at the observer's eye. If they are divergent, it will require a lens of more than 1 D. to do this—just as much in excess of 1 D. as the rays are divergent. If they are convergent, it will need a lens of less than 1 D.—just as much less as the rays are convergent.

The observer knows that the rays have been brought to a focus at the sight-hole when he can no longer produce a movement of the shadow, one way or the other, by tilting his mirror. He can confirm this by moving, alternately, a trifle nearer to and away from the patient when he will see the shadow move a little against and with the mirror, respectively.

The Objects of Retinoscopy

This, then, is the object of retinoscopy: to force the "point of reversal," i. e., the point where the emerging rays meet and

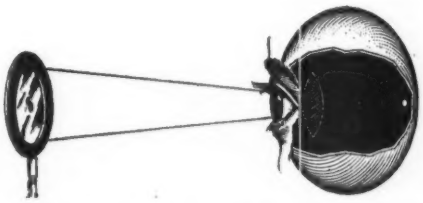


Fig. 5. Showing how divergent rays from a hyperopic eye are still uncrossed when they reach the retinoscope, causing the shadow to move against the mirror.

cross and, therefore, where the movements of the shadow reverse, at 1 meter; and, by the curvature and strength of the lens which it takes to obtain this result, to estimate the character and degree of the error of refraction.

Suppose that, with the retinoscope at 1 meter, we find the shadow moves against the mirror. We put up a 1 D. convex lens before the patient's eye, and then find that at 1 meter distance the rays are just focused, that is, the shadow does not move in either direction. We now know that the rays emerging from the eye are parallel; the refraction is normal.

Suppose, next, that we find the shadow moving against the mirror, and, even with a 1 D. convex lens up, it still moves against. We go on adding convex correction, 0.25 D. at a time, until we make the rays focus at our sight-hole. Say, that we have to put up

2.50 D. convex lens to do this; that means that the emerging rays are divergent to the extent that 2.50 is in excess of 1 D., namely, 1.50 D. The eye is hyperopic 1.50 D.

Again, suppose we find the shadow moving against, and on putting up a 1 D. convex

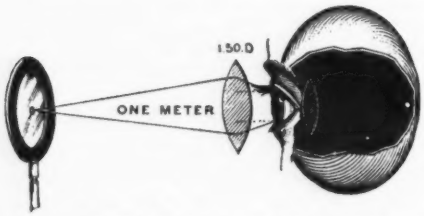


Fig. 6. Showing how divergent rays from a hyperopic eye are brought to a focus at 1 meter by a convex lens as much stronger than 1 D. as the rays are divergent from the parallel.

lens we find it has reversed itself and now moves with. We have overforced the point of reversal. It does not need 1 D. convex to bring the rays to a focus. This means that the emerging rays are not parallel, but convergent. We put up less and less convex correction, until we get the reversal. Suppose that it requires a 0.25 D. convex lens to do this. Then the rays are convergent to the extent that 0.25 D. is less than 1 D., namely, 0.75 D. The eye is myopic 0.75 D.

Once more. We find the shadow moving with the mirror. We know at once that the emerging rays are strongly convergent; the eye myopic. It is of no use here putting up

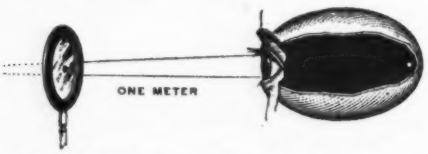


Fig. 7. Showing how convergent rays from a slightly myopic eye are still uncrossed when they reach the retinoscope, causing the shadow to move against the mirror.

convex lenses to force focusing; what we need here is, concave correction to delay focusing, so as to bring back the crossing-point of the rays to the 1-meter distance. Say, we have to use a 0.50 concave to do this. Then the emerging rays are convergent to the extent that minus 0.50 is less than plus 1 D., namely, 1.50 D. The eye is myopic 1.50 D.

Finally, suppose we find the shadow not moving in either direction at 1 meter. Then the emerging rays are convergent to just the degree that nothing is less than plus 1 D., i. e., 1 D. The eye is myopic 1 D. In other words, its own myopia is just equivalent to the lens that would bring parallel rays to a focus in 1 meter.

A Word on Astigmatism

Astigmatism is a little more difficult to estimate with the retinoscope, but with care and practice it can be measured and corrected with equal accuracy.

Whenever we are using the retinoscope, we should not be content with rotating the mirror in one meridian only, but, having obtained the point of reversal in the customary meridian (the horizontal one), we should rotate it in every other cardinal meridian, to make sure that the refraction is the same in all meridians. If it is not (as will be evidenced by the point of reversal), then we must, by the same process, discover which meridian is the most

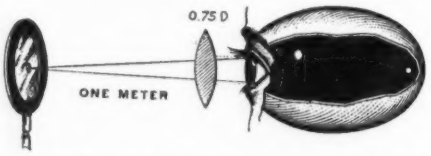


Fig. 8. Showing how slightly convergent rays from a slightly myopic eye are brought to a focus at 1 meter by a convex lens as much less than 1 D. as the rays are convergent.

convex and which the most concave, and then find the point of reversal in these two chief meridians separately.

I shall give more detailed instructions for estimating astigmatic errors with the retinoscope in a separate chapter on astigmatism. I may say, in passing, that, when using the retinoscope, we usually are warned of the presence of an astigmatism by the fact that the shadow made by rotating the mirror has an oblique edge, no matter how the mirror is tilted. Often, also, one edge of the shadow

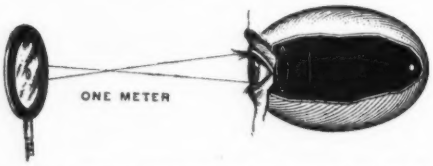


Fig. 9. Showing how convergent rays from an eye that is myopic more than 1 D. have met and crossed before they reach the retinoscope, causing the shadow to move with the mirror.

is clearer and moves more quickly than the other.

General Directions

Since it is the pupil, and the pupil only, that is under examination, movements of the light on the cornea and the face are valueless and only serve to mislead. Hence, the

s maller and more concentrated the disc of light thrown into the pupil, the better. A hole of 10-mm. diameter in the diaphragm of the lamp is a good average concentration.

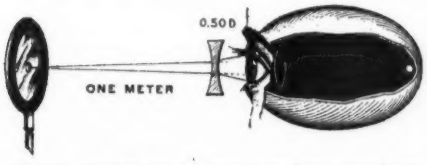


Fig. 10. Showing how convergent rays from a myopic eye are brought to a focus at 1 meter by a concave lens of dioptric strength equal to the excess of myopia over 1 D. The dotted line represents the degree of convergence which would, unaided, bring the point of reversal at 1 meter, i. e., 1 D. of myopia. A 0.50 concave lens renders the convergence equal to this, hence there is 1.50 D. of myopia in the eye.

For the same reason, the tilting of the mirror from side to side, to produce the shadows, should be very slight, so as not to move the disc of light outside the pupil.

The observer's eye must, of course, be further away from the patient than the focal length of the mirror he is using, else, it is evident, the rays of light thrown by the mirror into the patient's eye will not have crossed before they enter it; the image made on his retina will be an erect instead of an inverted one; and the whole process will be reversed. This can be insured by using either a plane mirror or one of not more than 25 cm. focal length for 1-meter work.

In computing the correction in retinoscopy, it is necessary only to remember that plus 1 D. is the lens which brings the normal point of reversal to the sight-hole. This plus 1 D. must, therefore, be subtracted from whatever correction was used to obtain the point of reversal. Thus, if minus 2 D. was needed to get the point of reversal at 1 meter, then the proper correction for that eye is minus 2 D. less plus 1 D., which is minus 3 D. If the lens strength used was plus 2 D., then the proper correction is plus 2 D. less plus 1 D., or plus 1 D.

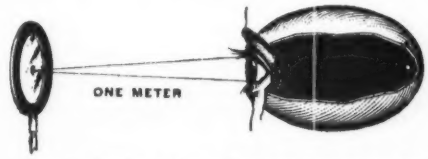


Fig. 11. Showing how convergent rays from an eye just 1 D. myopic come to a focus at just 1 meter, bringing the point of reversal exactly at the retinoscope. The myopic effect of the eye is just equivalent to that of a 1 D. convex lens.

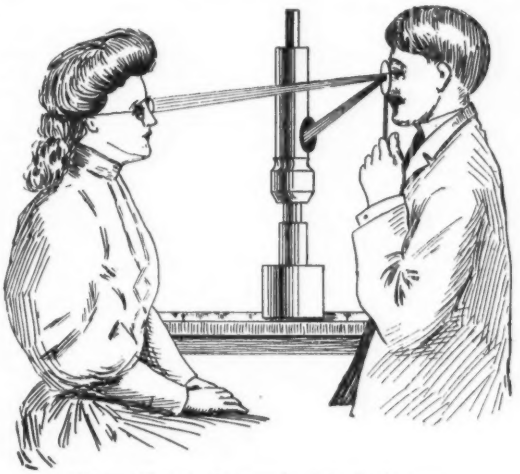


Fig. 12. Illustrates the general technic of retinoscopy.

A June Morning

Sun's up! Wind's up! Wake up, dearies,
Leave your coverlets warm and downy,
June's come into the world this morning;
Wake up, Golden Head! Wake up, Brownie!

Dew on the meadow-grass, waves on the water,
Robins in the rowan-tree wondering about you;
Don't keep the butterflies so long waiting,
Don't keep the bobolinks singing without you!

Sun's up! Wind's up! Wake up, dearies!
Blackbird wants you in the garden soon;
You, I, butterflies, bobolinks and clover,
We've a lot to do on the first of June!

—*Charles Willeby in June Nautilus.*

Facts About Rectal Feeding

A Discussion of Principles and Methods

By CHARLES J. DRUECK, M. D., Chicago, Illinois

IN PRESENTING the subject embraced in the title, I wish to state that I am not so enthusiastic as to suggest this method of alimentation as a substitute for conveying the nutriments by the normal avenue, but rather as a resource in the treatment of certain conditions where it may be desirable or even imperative to relieve the stomach of all food for a time, and thus temporarily sustain the patient by mechanically introducing food-substances into the rectum and colon by way of the anus.

It has long been recognized that all mucous membranes will absorb certain substances and pass them into the lymphatics, but only recently has this knowledge been applied to rectal feeding. Kelsey cites numerous authors who speak of the relative absorbing power of the rectal and gastric mucous membranes, and we find that a considerable proportion of these writers conclude with an evasive statement to the effect that it has not as yet been definitely established that sufficient nourishment may be absorbed by the mucosa of the rectum and sigmoid colon to sustain life. Bauer, for instance, asserts that "not more than one-fourth of the necessary nutriment, even under the best conditions, can be absorbed from the rectum." Such statements, in the light of our present knowledge, must be modified, however, because experience has shown that many patients not only live but some even gain slightly in weight when the injections are carefully given according to the directions that will be described further on.

Thompson ("Practical Dietetics") supported a patient seven weeks, and Flint (*N. Y. Med. Rec.*) tells of a patient who was nourished for fifteen months by rectal feeding alone, and who had been maintained chiefly by this method for five years. These are, of course, extreme cases, but it is safe to say that the average patient may be maintained for three to four weeks by means of artificial feeding exclusively; and this is sufficient time to produce good results in most instances. Friedenwald and Ruhrah, in their work, state that an individual may be thus sustained for from four to seven weeks.

It is true, food given by the rectum cannot yield anywhere near as much nourishment as when taken into a healthy stomach by way of the mouth, because with but rare exceptions we can utilize only the large bowel; and, yet, I believe that colonic feedings pass through into the small intestine much more frequently than we are prepared to admit. As a matter of fact, in colonic feeding, we certainly supply to the system all of the necessary fluids and inorganic salts, and at least part, and possibly all, of the amount of food required to sustain the individual while at rest.

Feeding by way of the rectum has been objected to mainly on theoretical grounds, with reference to the physiology. As to this, I might reply that, so far as my experience shows, the method of administration very often is at fault.

The rectum proper (that is, the last six inches of the gut) has very limited absorbing power, but Landois has shown that the colon possesses a very marked assimilative power, although the digestive ferments of this part are feeble. Consequently, properly prepared foods are readily taken up from the colon, insuring considerable nourishment to the system.

Recognizing the fact that patients are nourished by foods administered per rectum, while maintaining that the secretions of the rectum have little digestive power, certain authors have advanced most peculiar theories as to how assimilation is accomplished.

Flint, for example, says ("Trans. N. Y. Acad. of Med.), "When food comes in contact with the rectum while the stomach is empty, the gastric and intestinal juices descend to the rectum." Dr. Batty, from experiments on cadavers, concludes that the injected food ascends the whole digestive tract, instead of remaining in the rectum or colon. He thus accounts for the phenomenon of patients being able to taste substances such as quinine or castor oil when administered rectally. C. W. Brown, of Washington ("Food," vol. 4, no. 8), cites a case where the patient was able to recognize the taste of potassium iodide or of ergot fifteen to thirty minutes after the substance was introduced into the rectum, and assumes a rapid absorption and transmission through the blood to the taste-bulbs and the saliva. I myself must agree, how-

ever, with Tuttle, in believing that the recto-peristaltic action, whereby the enema is carried through Bauhin's valve into the small intestine, is the exception and that in practice most of the nutrient probably is absorbed directly from the colon.

Voit and Bauer were the first to find that sodium chloride added to meat-juice and peptones greatly adds to their absorbability when given in an enema; but the salt stimulates reverse peristalsis to such an extent that many writers (Grutzner and, later, Swieznski) have been able to demonstrate in the stomach substances that have been administered per rectum.

Principles of Rectal Feeding

In rectal feeding, the minutest details are important; and, indeed, the enemata should always be administered by the physician himself, instead of intrusting the task to a nurse, inasmuch as the patient's life generally depends upon his ability to endure continuation of the treatment. If the rectum becomes irritated, it usually means suspension of this mode of feeding; and, yet, only rarely can the feedings be withheld long enough to permit the local trouble to subside. Occasionally it happens that a patient will object to rectal feeding, for esthetic reasons; and then, naturally, the physician must use tact and persuasion.

Before going into the details of rectal feeding, I desire to impress the following facts upon the reader as being very vital to the success of the treatment: (1) The rectum must be free from feces and mucus before giving the enema. (2) Any irritability of the rectum is to be relieved as quickly as possible. (3) The quantity and quality of food introduced must be regulated carefully, to avoid peristalsis and to allow complete absorption of one portion before another is injected.

Indications for Rectal Feeding

Feeding by way of the rectum is indicated under the following circumstances:

1. In temporary obstruction to the entrance of food into the alimentary canal, as by newgrowths, foreign bodies, inflammatory swellings of the mouth, pharynx or esophagus resulting from disease, corrosive poisons such as carbolic acid or ammonia or from hot fluids.

2. In inability to swallow food, as during coma, delirium or in post-diphtheritic paraly sis; also during acute insanity when food is refused by the mouth.

3. In gastric disturbances, such as acute gastritis, ulcer or cancer (when it is desired to rest the stomach), reflex vomiting of pregnancy, or sea-voyages.

4. In stricture of the lower digestive tract anywhere above the colon.

5. In feeble digestion and when emaciation s increasing.

Mode of Administering the Enema

The utmost care is necessary in the manipulations, because irritation and injury to the rectum are inevitable if careless, rough or unskilled attempts are made. I mention the ordinary syringe with the short nozzle only to condemn it. For children, a No. 12 or 14 "velvet-eyed" flexible catheter may be chosen, but for adults a full-sized rectal tube having a caliber of one-half inch should be employed. The rectal tube should be sufficiently rigid to free itself and not bend or double if it catches in a fold of mucous membrane, and, yet, must not be so stiff as to cause pain or damage when introduced. Olive-oil, salad-oil, melted butter or vaseline may be applied for lubricating; but never glycerin, since this tends to excite peristalsis.

Just how far the rectal tube can be passed into the colon is a mooted question. Certain authorities claim to be able to reach the transverse or even descending colon, while others (Nothnagel, Naunyn, Boas) maintain that the tube invariably coils upon itself in the ampulla, or dilated portion of the rectum. Rosenberg and Lilienthal found that by using the sigmoidoscope they could pass a soft tube as far as the middle of the sigmoid flexure, but no farther; the greatest distance being 30 cm., or 12 inches. Soper has carried out a series of experiments, with the patient on the side and in the knee-chest position, and found that the tube invariably coiled up in the ampulla. In *The Journal of the American Medical Association* for August 7, 1909, he shows radiographic pictures of the position of the tube. He shows positively that the rectal tube seldom passes more than six or eight inches into the rectum without kinking and that to introduce it farther causes (1) kinking of the tube and obstruction to the flow of liquid into the bowel, and, so, (2), such distention of the bowel as to stimulate evacuations. This latter fact undoubtedly is one of the causes of failure of retention of nutrient enemata when given "high."

In adults, then, I introduce the tube a distance of six or eight inches. This prevents the ejection of the fluid and brings it in contact with a large amount of mucous membrane. There is also an anatomical reason for passing the fluid high. The blood returned

from the colon, sigmoid flexure, and superior hemorrhoidal veins enters the vena cava, so that substances absorbed by these latter veins do not go through the liver, while substances absorbed higher up pass through the vena porta to the liver and are there further elaborated.

A fountain-syringe or an ordinary stomach-tube and funnel may be attached to the rectal tube. The apparatus must be tried before putting it to use, in order to see that all is in working order. It is well to heat the appliances to about 100° F., so as to prevent chilling the nutrient to be introduced, for fluids if too hot or too cold are promptly expelled; an enema at 90 to 95 degrees being retained best.

When everything is ready the tube is filled with the fluid before introducing, to insure the exclusion of air, because air is very likely to stimulate peristalsis and, hence, evacuation. The injection must be given slowly, occupying ten or fifteen minutes, because rapid infusion also stimulates unwelcome peristalsis. When the tube is nearly empty and before any air has a chance to rush in after the injection, it is firmly grasped and slowly but steadily withdrawn. Then, to aid retention, a soft folded towel should be pressed firmly against the anus for twenty or thirty minutes. This reduces the temporary excitation and the tendency to evacuate.

Cleaning Out the Colon

One of the first essentials for absorption by the colon is cleanliness within. It is very evident that, if the colon or sigmoid flexure is filled with feces or the sides are covered with mucus, it is impossible for osmosis to occur. Consequently, before any nutriment is introduced, the colon must be thoroughly emptied and cleansed.

One hour before the time of giving the morning feeding the colon should be flushed with a high injection of one quart of normal salt solution. A return-flow catheter must be provided, that the water may find easy exit and thus avoid inciting peristalsis. In many instances, one such cleansing each day will be sufficient; but if much mucus is present it is well to precede each feeding with the cleansing clyster, and here the salt should be substituted by two teaspoonfuls of sodium bicarbonate. When the rectum is tender or inflamed, a saturated solution of boric acid is borne best. This procedure washes out any undigested food or waste matter, cleanses the mucous membrane, stimulates the local circulation, and thus provides better absorption.

The proper temperature of the flushing-solution is a matter of some difference of opinion. Tuttle recommends cold water, because he finds that this acts more promptly and, he thinks, leaves the bowel more tolerant to the succeeding nutrient enema. My own preference, however, is for solutions of nearly the body-heat, as they cause less reaction, or, in other words, congestion of the colonic mucosa. The nutrient enema being kept in contact with the tissues for a considerable time, it necessarily must induce some reaction and, if by any kind of treatment we overstimulate and thus irritate the colon, it promptly expels the entire contents; and this may determine our case unfavorably. A very important point is, to flush out the bowel quite a while before giving the nutrient (in my practice I make this about one hour), and then allow the patient absolute rest in bed.

The tube is introduced with a twisting or boring motion, to avoid its becoming caught in the folds of the mucosa. If it meets resistance, a little of the fluid is admitted and thereby the gut dilated, or ballooned. After the tube has passed the sphincters (about 4 inches), procedure is suspended for a few minutes, until the temporary excitation has subsided; during this period of rest any colon gas present frequently being expelled. The tube then is pushed as high as desired, to bring the fluid into contact with a large amount of mucous membrane and to lessen the tendency toward ejection.

When the tube is nearly emptied and before any air has a chance to rush in after the injection, it is firmly compressed and slowly but steadily withdrawn. To aid retention, a soft, folded towel should be firmly pressed against the anus for twenty or thirty minutes. This reduces the temporary excitement and the tendency to evacuation. The patient should remain quiet for at least an hour and be instructed to do his best to retain the fluid; cheerful conversation by the doctor or attendant diverts the patient's mind and is of much assistance where there is danger of its not being retained.

A correct position of the patient also assists, the left lateral prone, with the hips raised (on a pillow), usually being sufficient; although, if the patient is nervous or hysterical, it is well to adopt the knee-chest posture. In gynecological or obstetrical cases where enemata are given, it must be remembered that tight vaginal tamponing interferes with absorption from the rectum.

The number of injections per day depends

upon the relative irritability of the rectum, and at the beginning they should be one in six or eight hours. If after two days the rectum is in good condition and it is necessary to give small enemata frequently, they may be repeated every four hours. However, frequent clysters usually irritate the rectum and have to be suspended soon.

Care of the Rectum

The exact condition of the rectum must be determined and explicit instructions given to the nurse when it is desired to continue nutrient enemata. Failure often results from leaving this matter to persons ignorant of the anatomy and the conditions to be observed; when, if the attendant were intelligent and skilled in these details all troubles would be overcome. It is the duty of the physician to do the work himself whenever possible.

In the beginning the clysters may be rejected, but when properly prepared and administered the rectum quite often soon acquires a tolerance, so that the nutrient enemata may be administered in sufficient numbers and volume to support the patient for weeks.

Proctitis always is likely to arise, and it is only occasionally that irritation and diarrhea does not occur within two or three weeks. When this does happen, the enemata must be stopped temporarily, to be resumed after the bowel improves. All local troubles, such as ulceration, fissure, fistula, and hemorrhoids are drawbacks. The presence of hemorrhoids is one of the most unfavorable handicaps to the treatment, because they are so easily irritated and inflamed and they then set up a spasmodic contraction of the sphincter. When hemorrhoids exist, great care must be exercised to avoid irritating them by rough usage of the catheter or syringe-nozzle; under these circumstances I always use a soft flexible catheter. If the hemorrhoids are at the orifice, I paint them with a 2-percent solution of cocaine before introducing the fluid, applying immediately afterward a mild astringent and sedative ointment.

During the whole course of such feeding the rectum should be thoroughly emptied and cleansed by flushing with two or three pints of soapsuds and water before the nutrient injection is given. The flushing may be accomplished through an ordinary catheter, but, if a double catheter is used, two or three quarts of water containing a few grains of salt works nicely. If the rectum is irritated and much mucus is present, a saturated solution of boric acid may be used instead. The flushing washes out any undigested food or waste matter, cleanses the mucous membrane, stimulates the local circulation, and, so, provides better absorption.

Opium in the Nutrient Enemas

Opium in the form of laudanum (from 3 to 20 minims) may be added to the nutrient when irritation exists, but it must be remembered that opium inhibits peristalsis and thus favors retention of the enema, and also interferes with its absorption. Whenever this drug is resorted to, the dosage must be guarded and its action watched. If the nutrient enemata are continued for a protracted period and the rectum becomes irritated, the opiate often acts better if introduced one-half to one hour earlier. When thus administered separately, the volume is so small that it can act locally before the larger nutrient enema is given. The deodorized tincture of opium or McMunn's elixir may take the place of laudanum.

Foodstuffs Suitable for Rectal Feeding

Not all substances administered by mouth are available for rectal feeding. Starches and most of the fats rarely are absorbed from the rectum. Starches partially converted into sugar are absorbed more readily, but not sufficiently so to be serviceable as food. Malt extracts may possibly sometimes be absorbed. Fats and oils are not only not absorbed, but often are rendered worse than useless by coating the rectal lining as well as the food, thus preventing absorption of the latter. Attempts at saponifying or emulsifying the fats have given very poor, or at least doubtful, results.

It is important to select only such substances for rectal foods as will be entirely, or nearly so, absorbed, because all residue acts as a foreign body. However, it has been found that many albuminous foods, although absorbable, act as irritants when given in too great a degree of concentration. Pure peptones, for example, must be diluted with two or three volumes of water or some bland substance. Some albumens, such as of eggs or that made from chopped meat, may be absorbed by the rectum undigested; but even these are better when partly pancreatized.

Albumin is very slowly, if at all, diffusible and must previously be changed into albumose. This may be accomplished by adding pepsin or pancreatic extract to the injection, either some time before administering and allowing digestion to take place outside the body or by adding the ferment

just before giving the clyster and then allow digestion to proceed within the bowel. Catillon, experimenting along this line on dogs, found that the animal fed (rectally) on unaltered egg lost weight and barely kept alive, while the one receiving eggs combined with glycerin and pepsin retained its normal weight and apparently its health. After thirty-seven days the pepsin was omitted, whereupon the dog gradually lost weight.

Itemized Consideration of Foodstuffs

Pancreatized meat.—Pancreatic extract in some form may be employed in preparing proteid food; but it must be fresh, as it does not keep and, so, is likely to act as an irritant. So, also, glycerin extracts of pancreatin will not do, on account of the aperient action of the glycerin. Leube suggests the addition of 1 part of fresh pancreas to 3 parts beef as the best proportions; the pancreas and meat being finely minced and triturated, after the addition of a little water, until it forms a paste. All adhering fat must carefully be removed. A large-nozzled syringe is required for injecting the mass. The principle underlying this procedure, according to Leube, is, that digestion begun outside is continued within the rectum; it being only rarely that the substances are absorbed immediately, while in this shape they may be retained in the bowel for as long as ten hours without detriment.

Mayet suggests practically the same formula, only that he adds the yolk of one egg and allows the mixture to stand two hours before administering. Occasionally it is recommended to add to the beef mixture some hydrochloric acid, and also milk, but the acid is altogether too irritating for intestinal digestion, and artificial digestion must be carried on outside the body.

Blood.—Dried beef-blood has been used as a rectal food, but is not practicable for it usually clots within the rectum and thus prevents the absorption of other substances. Fresh defibrinated blood, 4 ounces every six hours, may be used, but is not recommended.

Milk.—Milk is one of the most satisfactory rectal foods. It should be free of all its cream, while digestion must not be too far advanced outside the body.

Eggs.—Egg-albumen is one of the best, if not the best, ingredient for rectal feeding. It is absorbed from the rectum, even if unchanged, but is better if predigested with peptogenic or pancreatic powder. Ewald says that egg-albumen, unpeptonized, is absorbed as readily from the rectum as commercial peptone, but that peptonized egg-albumen is taken up much better. The addition of 15 grains of salt to each injection aids absorption, although it sometimes irritates and, hence, must be used with care. The yolk of the egg is not used, because it contains so much fat mixed with the albuminous matter as to be practically useless. Fats can be absorbed only by the villi of the small intestine, and in no other part.

Glucose.—Invert sugar is absorbed in dilute solution. If given in concentration, it irritates the mucosa and stimulates expulsive peristalsis. Leube recommends 300 cubic centimeters of a 15-percent solution as a maximum.

Stimulants.—The agents of this nature employed in rectal feeding are alcohol and coffee. Each represents a different class, with its specific indications.

Alcohol.—When used for rectal feeding, the alcoholic must be good liquor, well diluted; the brandy, 1-2 to 1 ounce, being added to the portion just before it is administered, but after the process of predigestion. Being irritants, large amounts of alcoholics must never be added. Many times a small injection of 1-2 ounce of whisky or brandy in 1 1-2 ounces of water will be retained and absorbed, when a larger amount of fluid with the liquor incorporated would be expelled. Undiluted liquor added to milk sometimes causes a precipitate by coagulating the casein that has not been pancreatized; however, no solid matter, even if in the form of a fine precipitate, is of use in the rectum, for it merely acts as an irritant.

Alcohol stimulates the bowel and increases the absorbability of proteids. One of the strong points in employing liquid peptones is, that they contain the alcohol well diluted —about 15 percent— together with the same percentage of proteids and carbohydrates.

Coffee.—There are times, especially in postoperative treatment, when it is desired to combat shock, even more than to supply nourishment; and here a pint of good strong, black coffee, containing about 5 to 7 grains of caffeine, will afford prompt and effective support. Whenever such stimulation is needed, the pint of coffee may be substituted for the nutrient enema. Coffee may be given much more freely than alcohol, although, of course, all stimulants are really irritants and, if introduced frequently, will render the bowel intolerant.

Here is a good formula for a nutrient enema containing a stimulant:

Beat the whites of two eggs with a tablespoonful of cold water, add 1-2 teacupful (4 ounces) of a 20-percent glucose solution, in which 1 teaspoonful of starch has been boiled, a wineglassful of claret or 1-2 ounce of brandy, and a teaspoonful of peptone solution. Mix at a temperature not high enough to coagulate the albumen. (Ewald.) I may add that some authorities prefer claret to brandy because of its astringent effect.

About Emulsified Fats

Fats.—In the selection of a food for artificial feeding the caloric units which it represents obviously is important, and it would appear that fats and oils would be preeminent. However, clinically it is found that fats are not only not absorbed, but that, when administered, they tend to coat the mucosa and the other food, and, thus, prevent absorption. This is most unfortunate, because a given amount of fat produces twice the energy than the same weight either of proteid or carbohydrate food.

Attempts have been made to saponify the fats before their administration, and Edsall and Miller have carried out some extensive experiments along this line; but they were unable to find a soluble soap that did not contain so much free alkali as to make it markedly irritating to the bowel.

The only other way of giving fats is in the form of emulsion; but, in using milk and the yolk of egg, it is found that the proteids entangle the fats in the coagulum and stop digestion. With the artificial emulsions much better results have been obtained. Malted milk and pancreatized milk have proven very satisfactory, because the fats are very finely divided by these agents. Either of these two powdered milk preparations named—1-2 ounce dissolved in 5 ounces of saline solution—usually will be well absorbed, and not irritate the bowel. Considerably more fat is absorbed from a preparation of this kind than might be expected.

I, myself, have had good success with a mixture consisting of 1-2 pint of milk and 2 eggs (entire), given at one feeding, with the next injection consisting of pancreatized meat solution. By alternating these foods, the patient receives all classes of food-substances.

The amount of the nutrient injected each time must be determined for each patient. Some can retain not more than 3 or 4 ounces of liquid, and then the clysters must be given more frequently—perhaps every four to six hours. Others will hold comfortably up to 8 ounces, and these need not be fed oftener than two or three times a day.

When the enemas are given at frequent intervals, it is always necessary to add some opiate, since the rectum is sure to become irritated. However, almost always we shall be obliged to add opium after the first few days or a week, and, as the dose must gradually be increased, it is well to begin with the smallest possible dose, say, 5 minims of the official tincture.

Nutrient suppositories.—The form of suppositories sometimes is chosen for conveying the pabulum, the most common articles incorporated being evaporated predigested milk or meat-juice, with cacao-butter as the vehicle. They possess no effective value over enemata, but may prove useful where feeding is to be continued for a longer time.

In concluding, I will add that I do not wish it to be understood that rectal feeding can entirely replace the normal method of ingestion of food, but I do insist that in the proper class of cases, as indicated above, where complete rest of the stomach for a few weeks or less may mean the saving of life, this manner of supplying nutriments will sustain the patient and occasionally even add to his weight. Hunger and thirst are the most annoying symptoms experienced for a few days, but after that the patient is relatively comfortable. The tongue remains clean and moist and the longing for something to eat diminishes, and even disappears. But this point I would emphasize—a large part of the success in this work depends upon the doctor's familiarity with the method employed and his skill in carrying it out.

What Others are Doing

PHYSOSTIGMINE IN TACHYCARDIA

Kaufman reports (*Wien. Klin. Woch.*, 1913, No. 28) remarkable results from physostigmine salicylate in tachycardia. He prescribes it in a 1-percent solution, 3 drops to be taken three times a day, increasing the dose gradually to 10 drops. In certain cases, he combines the alkaloid with a digitalis preparation (digalen).

PSORIASIS CURED WITH ULTRA VIOLET RAYS

Positively brilliant cures of psoriasis (vulgaris) are claimed, by Breiger (*Wien. Klin. Woch.*, 1913, No. 18), by means of the ultra-violet rays. He utilizes a quartz lamp, but so modified by himself that a larger area can be illuminated. Every other day the diseased skin is exposed to the radiation for from five to twenty minutes. Recurrences have not been encountered.

EMETINE HYDROCHLORIDE IN EPISTAXIS

Another illustration of the power of emetine to control hemorrhage is given by Dr. James P. Prestley, in *The New York Medical Journal* for May 2, 1914 (p. 905). This occurred in a woman 73 years old, the wife of a physician, who gave a history of suffering from nose bleeding regularly every night for about ten days. She would wake about 2 a. m., with a choking sensation, and find her mouth full of blood and blood flowing freely from the nose. Her husband had used theusual methods of local treatment without benefit.

When Doctor Prestley was called to see this patient, she had already lost at least a pint of blood and a "regular stream" of blood was flowing freely from the nose He injected at once 1-2 grain of emetine hydrochloride from an ampule, and in twenty minutes the hemorrhage had ceased entirely. One-half grain more of the drug was given the following day, and the same dose was repeated for five succeeding days. The woman's blood pressure being high, she was also given tincture of strophanthus three times daily. There have been no recurrences of the hemorrhage.

TRANSPLANTATION OF DENUDED BONE

A section of tibia denuded of its periosteum has been transplanted successfully by H. G. Wetherill (*Jour. Am. Med. Asso.*, 1913, No. 20) into the tibia of a boy. Radiograms taken six months after the operation showed a complete union and regeneration of the bone.

THE LOWEST VAGOPARALYZANT DOSE OF ATROPINE

From the Institute for Experimental Pharmacology at Padua, I. Simon (*Arch. d. Farm. Sper. e. Sci.*, through *Ther. Monatsh.*, 1913, No. 8) reports the following results with experiments on rabbits: The smallest dose of atropine capable of paralyzing the vagus nerve is 0.028 mg. per kilo-weight of the animal. However, there is observed another action of the atropine—in the opposite sense—below that dose; that is, down to as low as 0.006 mg. per kilo-weight the atropine stimulates the vagus nerve, as shown by reduction of the pulse rate, and also increases its excitability, as greater lowering of the blood pressure demonstrates.

PULMONARY TUBERCULOSIS TREATED WITH X-RAYS

Encouraged by their gratifying results (as previously made public), Bacmeister, de la Camp, and Kuepferle, who had treated radiographically rabbits suffering from lung-tuberculosis artificially produced, undertook to try the method upon human subjects. Their results have been reported in the *Medizinische Klinic* (1913, No. 49 Cf. *Ther. d. Gegenw.*, Jan., 1914); detailed description of their procedure being given.

The patients, 15 in number, were treated at the clinic of the University of Freiburg.

They observed uniformly a favorable influence upon the disease-process, in every instance the tuberculous proliferation tissue being destroyed and supplanted by vigorously proliferating connective tissue, which in turn caused decapsulation and growth arrest of the infected nidus—much as in natural healing. However, adjustment of dosage of the rays must be accurate: if excessive, results are much less favorable, although harmful effects were not evidenced.

ACUTE UREMIA TREATED BY LOWERING BLOOD PRESSURE

Acute uremia, in the opinion of Pal, represents a crisis of high arterial pressure, and this accompanied by either a predominatingly cardiac or a cerebral symptom-complex. If, on the one hand, there exists a relative insufficiency of the left heart, a high-pressure dyspnea, with subsequent lung edema, results. When, however, the heart is not incapacitated, the consequence is a passive arterial hyperemia of the brain, th ncreased pressure beinging on eclamptic seizures.

Upon this hypothesis, a rational therapy in an acute attack would consist, primarily, in an aim to lower blood pressure; and, to this end, Pal has had recourse to papaverine. He reports (*Wien. Med. Woch.*, 1913, No. 32) that, after the administration of 0.02 to 0.06 Gram of papaverine hydrochloride (hypodermically or by mouth), the high pressure became reduced, and the symptoms of the acute attacks of uremia in his nephritic patients were removed or, on occasion, aborted.

ANTITYPHOID INOCULATION, AND MISSIONARIES

The medical profession in England apparently is as indifferent to the prophylactic value of antityphoid inoculation as the doctors are in America. However, it is interesting to learn from Leopold G. Hill (*Lancet*, Jan. 24, 1914, p. 278) that, since 1908, the Church Missionary Society has been inoculating against typhoid fever all missionaries going to countries where typhoid fever may be encountered. Those returning to the missionary field after furloughs also are inoculated, or reinoculated, as the case may be.

While this prophylactic treatment is not compulsory, its advantages are placed before each individual, and at least 95 percent see the value of the protection and take the treatment. Doctor Hill uses this fact to emphasize the desirability of a more general resort to this method of treatment among physicians and their patients.

THE ABDERHALDEN TEST IN SCARLATINA

The possible applications of the Abderhalden test, to which we referred editorially in our April issue, are multiplying apace. Thus, for instance, in an interesting review of the subject by Leroy, in the *Paris Médicale* (Feb. 21, p. 297), we find the report of some recent work by Schulz and Grote, quoted from the same publication of May 10, 1913.

In view of the tendency to serous swelling of the lymphatic glands in cases of scarlatina, these authors used in the dialyzer fragments of normal axillary and mesenteric glands, together with the serum from scarlatina patients. Altogether 24 patients were studied. Prior to the sixth day of the disease, the result always was negative, but from that day to the 31st the reaction showed that there was a splitting up of glandular albumin molecules by the defensive ferment. Only in 3 instances were the laboratory results in disagreement with the clinical results. Apparently the proteolytic ferment in these cases appeared at the same time that the eruption provoked it.

A CASE OF ASPIRIN POISONING

A peculiar idiosyncrasy to aspirin is reported by Edward N. Reed (*Jour. Amer. Med. Assn.*, March 14, 1914, p. 773). The patient —a man of 36, a clerk—took 5 grains of aspirin in a capsule, to cure a cold. About half an hour afterward he vomited, and in another fifteen minutes his throat became uncomfortable and he thought tonsillitis was developing. In an hour and a half he had vomited repeatedly, and his condition was serious.

At this juncture the doctor saw him. The face now was cyanotic, the lips and ears were of a violet-blue color, the eyes were edematous, the conjunctiva was injected, the whole face swollen. Breathing was labored, and the nasal mucous membrane so engorged that breathing through the nose was impossible. The pulse ran 120, was soft and full, and the temperature stood at 98 degrees. In the lungs were heard numerous dry whistling râles, but no moist ones. Breathing was what one would expect in case of edema of the glottis. Inspection showed the mucous mem-

brane of the mouth and throat dark and swollen.

This condition lasted only a relatively short time. Within six hours the patient was comfortable, the nose was patulous and breathing normal. The following morning there had appeared a fine, discreet papular rash on the man's trunk. This patient reported that about a year prior to this time he had suffered similar symptoms following the taking of a capsule containing aspirin and acetphenetidin, of each 2 1-2 grains.

THE INITIAL CHILL

The initial chill in practically all acute diseases is due to disturbed balance in the circulation, with abstraction of blood from the surface: so declares Dr. George L. Servoss in the May number of *The Medical World* (p. 188). The indicated remedy therefore is atropine.

Doctor Servoss says that, if we push this drug sufficiently hard to drive the blood out of the congested part and continuing its use until the skin becomes rose-colored, the affection often will be avoided. The Doctor fully believes that, if this drug were used with energy in the initial stage of pneumonia, the disease would be cut short, if not completely aborted. He believes that prompt resort to this remedy should operate to fill the peripheral capillaries, thereby relieving the internal congestion and thus overcoming the chill, fever, and inflammatory action.

Also, Doctor Servoss has seen the initial chill in pneumonia relieved by the prompt administration of aconitine and veratrine, both of which dilate the peripheral capillaries and in that way help to restore the circulatory balance. Furthermore, he has seen a chill caused by exposure, with the capillaries so contracted as to produce blueness of the skin, and a hard-laboring heart, relieved by a dose or two of nitroglycerin.

In his opinion, these different remedies act in much the same way; that is, by restoring the circulatory balance.

THE TREATMENT OF ACNE

A case of acne will usually yield to bacterin treatment within three or four months, declares J. N. Roussel (N. O. *Med. and Surg. Jour.*, Dec., 1913). Not every patient, however, reacts to the bacterins commonly used. This may be due to the fact that the bacterin employed is not the right one; or it may be owing to intestinal or other derangement that requires correction. Doctor Roussel declares that, in his experience, the Van Cott bacterin has given better results than the others employed by him.

As a rule, it is essential that the patient be given iron or arsenic, and the author finds that a course of hematinic treatment is indicated, not only in the anemic and emaciated patients, but also in a great many of those who are "fat and greasy." Indeed, the latter often do better on iron than on anything else. In his opinion, Donovan's solution has no equal as a tonic in the treatment of these cases. When, however, this preparation is employed, sulphur applications should not be made to the skin, because the sulphur will combine with the mercury of the solution of arsenic and mercury iodide, to form black spots in the skin, thus seeming to multiply the "blackheads" at an enormous rate. Consequently, the use of those remedies separately is suggested.

The combination of arsenic iodide and calcium sulphide often also gives excellent results in the experience of many members of the CLINIC family. Doctor Roussel also advocates the internal use of nitrohydrochloric acid, especially when pus is present.

The best local application is tincture of green soap. The pustules should be opened every two or three days and all comedones should be removed.

BACTERIN THERAPY IN ACNE

An interesting paper upon bacterin therapy is contributed to *The Southern Medical Journal* (March, p. 240) by H. H. Hazen. Among other things, the author reports on his experience with 100 cases of acne vulgaris. Like other dermatologists, he has found that the staphylococcus is of value only when there are pustular lesions, while being useless for removing nodular lesions or comedones. In the latter trouble, a bacterin made from the acne bacillus has proven of marked value.

When working with the acne bacterin, Doctor Hazen says that the average initial dose should be from 15 to 20 million of the dead bacilli. This does should be increased by about one-third at each injection, until from 150 to 200 million dead bacteria are being injected each time. It is difficult to decide either the correct dose or the correct interval, and each patient is a problem in himself. Some do better with small doses frequently repeated, others, again, with large doses given at infrequent intervals.

In pustular cases, as already suggested, the staphylococcus-albus bacterin may, with good advantage, be used in addition to the acne bacterin. Doctor Hazen gives the record of some interesting cases. For instance, one girl of nineteen was entirely cured of an acute acne with a single dose of a bacterin containing 250 million organisms. Another young woman, of 23, who had persistent acne of seven-years' duration, was cleared when doses of 50 million were given at five-day intervals; but when larger doses were employed or larger intervals allowed, there always was a relapse.

BACTERIN TREATMENT OF ECZEMA

In his interesting paper upon bacterin therapy in diseases of the skin, from which we already have quoted (see *South. Med. Jour.*, Mar., p. 240), H. H. Hazen declares that most cases of eczema are either aroused or aggravated by the presence of staphylococci, and here very gratifying results have been obtained. Some of the best results have been obtained in the erythematous and papular types, which refuse to yield to ordinary methods of treatment.

Hazen cites the case of a negro waiter who had suffered severely from erythematous eczema of the scrotum for nearly a year and was in bad physical condition on account of loss of sleep. External and internal treatment had produced no lasting benefit. After the third dose of staphylococcus albus bacterin, the itching began to abate, and after the tenth dose it entirely disappeared. However, it reappeared in two weeks after treatment was discontinued; in fact, it invariably reappeared whenever treatment was stopped, although at last it did yield, and had not recurred for six months.

Another case treated by Doctor Hazen was a physician's wife who had suffered from eczema of the axilla for nearly three years. She was cured in a month by means of staphylococcus-albus bacterin treatments.

A little girl, four years of age, who had suffered from vesicular eczema for two years, was cured by four small doses of staphylococcus-albus bacterin.

THE TREATMENT OF PUERPERAL SEPSIS

An excellent résumé of the modern method of treating puerperal sepsis is given by E. E. Montgomery in *The Pennsylvania Medical Journal* for March. The foundation of the treatment is elimination, and this is most speedily effected by means of the continuous rectal instillation of normal salt solution. Ordinarily the patient is placed in the Fowler position, half-reclining, and the solution permitted to run in slowly. Should the bowel prove nonretentive, a double tube may be introduced, allowing the fluid to run in and the superfluous fluid and gas to escape; but in such cases the Fowler position can be reversed, that is, the foot of the bed may be elevated. As a rule, however, the half-reclining position, the fluid being introduced very slowly (the Murphy drip), gives the best results.

Care must be taken, though, to see to it that in this procedure the balance between absorption of the intestinal canal and elimination through the kidneys and skin is carefully preserved. Doctor Montgomery has seen marked ascites resulting from overfilling of the bowels when renal elimination was delayed or impaired.

Ice-packs to the abdomen are efficacious in lessening pain, limiting the extention of inflammation and promoting contraction of the uterine muscles. Strychnine, atropine, and ergot may be administered as needed, hypodermically, while digitalis can be given by the rectum. The diet should consist largely of milk and eggs.

The serum and vaccine treatments are highly recommended by Doctor Montgomery, who says he has great faith in the employment of antistreptococcic serum. Ten to twenty Cc., preferably the larger amount, should be given, and repeated, in doses of 5 to 10 Cc., every twelve hours for two days or until its efficacy has been determined. The value of the bacterin is not so certain. Doctor Montgomery, however, is favorable to the use of autogenous bacterins.

FISCHER'S THEORY CONCERNING NEPHRITIS, AND HOW HE TREATS IT

One of the most interesting theories with regard to the etiology of nephritis is that submitted by Martin H. Fischer, of Cincinnati, this hypothesis being set forth at length in his book entitled "Edema and Nephritis;" however, an excellent résumé is to be found in the March number of *The Journal of the Medical Society of New Jersey*.

According to Doctor Fischer, all the changes in the kidney leading to the symptom-complex which we call "nephritis" are induced by the abnormal production or accumulation

within the body, and especially in the kidney itself, of some form of acid. In other words, it is a direct result of acid intoxication. The acids in the kidney act directly upon the protoplasmic colloid material of the cells, which under this influence absorb water, as a result of their increased hydration capacity. In other words, the cells become edematous.

The secondary effect upon the cell is, the precipitation within it of protein material, and this leads to the condition which we know as cloudy swelling, the first stage in cellular degeneration.

Finally, the epithelial cells fall apart, stick together, and loosen en masse, as the cement substance dissolves, and this condition results in the formation of epithelial casts. By more prolonged action of the acids, the epithelial casts are converted into granular casts, and these still later into hyaline casts.

This, in general, is the pathogenic process occurring in nephritis, the parenchymatous form of the disease being taken as the general type. What we call chronic interstitial nephritis is a later resultant from the same process, connective tissue being formed to replace the crowded-out kidney-cells.

With this conception of the etiology of nephritis, the method of treatment devised by Doctor Fischer will be seen to rest upon a sound, rational basis. Briefly, it consists, primarily, in the administration of alkalis, in order to neutralize the acid present in abnormal amount in the kidney as well as in other edematous organs in the body. He also advises the use of salts and of water. Salts are useful, because the various changes induced by acids in the renal colloids are counteracted by any salt, even a neutral one. Water is administered, in order to have more of this present in the body to saturate all of the body-colloids, in other words, to provide the free water necessary for the secretion of urine.

Doctor Fischer also advises the administration of dextrose or other sugar, either by rectum or intravenously: first, because carbohydrate starvation is a very common and potent cause of acid formation, and, second, because sugar is a valuable agent for reducing excessive hydration of protein; or, to put this idea in more simple language, sugar withdraws water from swollen and edematous tissues.

With this conception of the etiology of nephritis, it is easy to understand how errors in diet—especially those associated with excessive ingestion of protein food and indican formation, which leads to high urinary acidity—may act as a factor in the generation of Bright's disease. Any cause, as a matter of fact, which gives rise to acidemia may also engender chronic disease of the kidney.

The methods of treatment so frequently advised in this journal for the care of the intestinal canal, in other words, the clean-out, clean-up and keep-clean method, together with alkalinization of the urine (as shown necessary by tests for urinary acidity), are of primary importance in the treatment of nephritis.

A CASE OF EMETINE POISONING

The first case of emetine poisoning which we have seen reported since the introduction of this remedy as a specific for amebic dysentery, is described by Spehl and Colard, assistants to Prof. Vandervelde of Brussels. This is described in *Province Medicale*, April 18, p. 176. The patient was a man of 28, who had suffered from amebic dysentery since 1911. From time to time there had been acute paroxysms followed by periods of remission, and he had received all the usual remedies, including ipecac.

Upon admission to the hospital he was given 3 centigrams (1-2 grain) of emetine hydrochloride twice daily for six days; thereafter three times daily. Under this treatment the number of stools decreased rapidly, and the abdominal pains were decidedly relieved but did not entirely disappear. Mucus and blood persisted in the stools. At the end of a week, the number of stools had fallen to three or four. At this point the dose was increased to three injections of three centigrams (1-2 grain) of emetine three times a day. This was continued for six days, when signs of intoxication appeared. The symptoms presenting were, general lassitude, noticeable in the lower extremities, but especially marked at the back of the head and neck so that he could no longer hold up his head. The injections were at once discontinued. The sense of fatigue was changed to a flaccid paresis of all the musculature. The voluntary muscle movements were painful. There was some difficulty in masticating, swallowing, and articulating. The voice became hesitating, lower, and monotonous. The pulse became rapid (130 pulsations a minute) and feeble. The face was edematous, and the tendon reflexes were diminished. The quantity of urine was finally decreased, and the percentage of urea and chlorides reduced. There was no albuminuria. In a few days the condition of the patient began to ameliorate,

but recovery was slow. Finally he was able to leave the hospital, complaining of nothing but slight weakness.

The authors speak in the highest terms of the value of emetine in amebic dysentery, although they point out, as did Chauffard and Dopter, that there are certain cases in which the amebas are of the encysted type, and these are more likely to resist the specific action of the drug. In view of the toxicity of emetine shown in this case, they advise that the administration of the drug be not too greatly prolonged. The patient will suffer no inconvenience if the drug is not continued longer than five or six days. To avoid complications, they suggest a series of five injections of 10 centigrams (1 2-3 grains) per day, for instance, after which its administration should be discontinued for several days; then another course of several days' treatment undertaken; this routine to be continued until the disease is cured. If emetine is administered in this manner, they are convinced it will produce its maximum action.

SIMARUBA IN DYSENTERY, AND ITS ACTIVE PRINCIPLE

Martin Mayer, speaking of his experiences in the Institute for Tropical Diseases, at Hamburg (*Muench. Med. Woch.*, 1914, No. 5), tells of one case of severe bacillary dysentery in which emetine proved absolutely worthless, exactly as others have reported; thus showing the action of the remedy to be a specific one upon the ameba (entamœba hystolytica), and not purely astringent, as has been suggested.

As an analogous example, Mayer then adduces simaruba-bark. Of this drug he asserts that in the clinic named the alcoholic extract of simaruba is held to be the very best remedy for amebic dysentery, next to emetine; but that, also, like the latter, it utterly fails in the Shiga (bacillary) variety.

This gives Mayer occasion to express strong opposition to the prevailing opinion among pharmacologists, who claim for simaruba-bark purely astringent properties, while he himself long has been convinced of the presence of some special constituent peculiarly antagonistic to amebic life. One proof of this claim he finds in the fact demonstrated by himself that, while the aqueous extract of simaruba-bark subcutaneously introduced is innocuous to rats, the alcoholic extract, contrariwise, is extremely poisonous to them in even minute doses. For this reason, Mayer urges renewed pharmacologic investigations to be undertaken upon simaruba, with the possibility, even probability, of discovering in it an active principle not hitherto recognized; thus gaining another agent for combating dysentery, and perhaps other forms of chronic diarrhea.

In this connection, it may be profitable to take a brief survey of this subject. Simaruba-bark, and its extract, used to be held in high esteem in Europe as a cure for dysentery and chronic intractable diarrheas, and still enjoys considerable repute among the laity in Germany as with certain clinicians in France. It is significant to recall that the vernacular name (since its introduction from America) in Germany is "dysentery-bark;" and this writer personally has seen several astonishingly rapid cures effected, by the decoction, in men become afflicted in the Civil War and who during many years had vainly consulted doctors.

In modern days, simaruba barely is mentioned in the popular textbook, and then only to class it as a mere variety of quassia—which itself is a much neglected member of our materia medica. The active bitter constituent of all the different species of quassia is stated to be a glucoside, quassin, and there the matter generally is dropped; no less an authority than J. U. Lloyd being very pronounced as to this view.

Turning, however, to Kobert (Kobert: "Lehrbuch der Pharmacotherapie," 1908), we find the following:

"A large number of plants of the family of simarubeæ contain a *group of amaras* that usually are associated under the name of quassin, but which, in reality, consist of two series of substances that should be differentiated as amaras of the quassin-series and of the picrasimin-series." Kobert then goes on to say that at present the principal use of quassia in Germany is that of a fly-poison, while the French value the glucoside quassin as a stomachic, in doses of 3-4 of a grain, about. Then, however, he continues:

"Various trees of the same or nearly related plant-class furnish drugs which since of ol have been highly valued in certain countr ie as stomachics and tonics; I may mention, for example, the extract of the bark of simaruba officinalis, which, in addition, is a favorite remedy for dysenteric diarrheas."

Then, in a subsequent chapter, and referring to the foregoing, Kobert again mentions, among the constipative bitterstuffs, the extract of simaruba, "to which specific virtues are ascribed, especially in dysenteric diarrheas." And then: "According to latest in-

vestigations—only recently made public—this drug *does not contain quassin, but a peculiar bitterstuff, simarubin.*" (Page 595.)

Clearly, this subject is a muddled one and needs clarification; if simaruba pharmacologically differs from quassia (as the plant does botanically), we ought to know it. But right here an idea suggests itself.

The botany of these quassoid trees for long was indefinite and, so, the supply of our quassias and simarubas has been decidedly unreliable; carelessness and ignorance of the native gatherers adding to the confusion. Besides, laboratory chemistry, more than once, has played havoc with drug-plants, pronoûncing against certain ones, when bedside experience and "the people" had found them valuable aids. May not, then, this have been a factor in the relegation of these two bitter drugs, they being collected and sold and used indiscriminately? We have seen the same thing for other drugs that eventually were resurrected or scientifically acknowledged: shepherd's-purse, cactus, and so forth, and so on.

MORE ABOUT QUASSIA AND SIMARUBA

After the foregoing was in type, further reading revealed an unexpected state of affairs. While we are curtly being taught that "quassia" is quassia and that the numerous varieties of simarubaceous trees are identical pharmacologically, all containing quassin, and, actually, this drug does not amount to so very much, the curious fact seems to be that science knows next to nothing about them, except as to their botanical identification.

The fact is that there are about a hundred species in this order, and these grouped into four or more genera (quassia, simaruba, picrasma, picræna, simaba, besides ailanthus), and the nomenclature thoroughly mixed; so that virtually the terms "quassia" and "simaruba" are meaningless, in a strictly specific sense. As to simaruba, even, we read in the "Realenzyklopædie der Pharmazie," dated as late as 1908, that it "is 'said to be' the bark of the root" (unless the ambiguous German phrase is intended as the imperative "must be").

Now as to the chemistry, the standard works definitely assure us that the bitter principle of these various drugs is quassin, and this the only therapeutic one contained. Quassin, as a name, has been known since 1836 (Winckler); since 1890 (about), however, chemists have spoken of this glucoside in the plural, as members of the group of bitterstuffs peculiar to the simarubaceæ; and even the pure quassin from official quassia is claimed to be a mixture of four bodies. (Massute (1890), Flueckiger, and Thess.) The bitter constituent of picrasma excelsa has been named picrasmin. But, as to this, the encyclopedia above quoted says: "Picrasmin is the name given to the bitterstuffs of picrasma excelsa. So far as we know today, these bitterstuffs are closely related to quassin; and here also the divers bitterstuffs appear to be members of a homolog series, similarly as has been proven by Massute for quassin. (F. Weiss.)" In the same work we are told that, according to Massute (*Arch. d. Pharm.*, 1890), the bitter principle of cortex simarubæ has not been isolated, but it "probably" is quassin. This "probably" we find throughout the texts—but it is a word not to build solid therapeutic structures on. (In this connection, we want to call attention to an anomalous statement in Stedman's Dictionary, viz.: There we find "quassin" enumerated as the "bitter" principle of "Surinam" quassia, and, following that, "quassiin," as the "neutral" principle of "Jamaica" quassia. This certainly is not right!)

(Comment.—Here again we see how important it is for the doctor to deal with pure, definite drug-principles, free from any other disturbing factors. Also, we again realize that experience at the bedside should not be lightly ignored at the behest of men working in the laboratory upon healthy animals, instead of, as does the clinician, with a deranged human organism.)

A FRENCH REPORT ON EMETINE IN DYSENTERY

One of the most complete and interesting reports concerning the use of emetine in amebic dysentery that so far has appeared is that written by Dopter, major in the French army and professor at the Val-de-Grâce military school, and published in the March 14 number of the *Paris Médical* (p. 361 *et seq.*).

Dopter, it appears, in one year has personally treated by the emetine method 57 patients suffering from amebic dysentery, and he paints a striking picture of the wonderfully rapid improvement following even the first injection of emetine in such cases. To quote his words, in free translation:

"Without fear of exaggeration, we can say that within a few hours after the first injec-

tion the abdominal pains diminish, to disappear almost entirely or even completely upon the succeeding day. The patients, who suffered severely during the dysenteric attacks, even duting the intervals, and always experienced a disagreeable sensation of abdominal tension, declared that after the injections they no longer 'feel their stomach'; at the same time the tenesmus is relieved. In a word, they experience a sensation of perfect euphoria. Furthermore, the stools change in character. Even on the next day the bloody mucus is less abundant, soon disappearing entirely. The discharges are less liquid, becoming pasty, and their number is reduced so decidedly that at the end of a few days (sometimes within forty-eight hours), the discharges resume their normal consistence. I have seen patients weep for joy as a result of this change for the better, a condition they had not experienced for many years."

In addition to the improvement indicated, the microscopic examination shows a diminution in the number of amebas, which lose their endoplasm and become spherical and immobile, although they may be replaced by amebic cysts. The appetite returns, anemia disappears, the patient takes on flesh, and within ten or twelve days after beginning treatment some patients are unrecognizable, owing to their general improvement. This specific action, Dopter declares, is manifested only in dysentery due to the ameba, and for this reason he quotes the suggestion of Rogers, that the drug may be used to differentiate this form of dysentery from other forms.

FAILURES WITH EMETINE

There is no method of treatment, no matter how active or how specific, with which there are not occasionally failures. The emetine treatment of dysentery is no exception to this rule, declares Dopter (*Paris Médical*, Mar. 14, p. 365). One of the causes of failure, which he mentions, is, the association of amebic dysentery with bacillary dysentery in the same subject. Under these circumstances, the drug influences only the amebas, and are without action upon the Shiga bacillus.

At other times, though, and more often, the reason for failure of emetine to cure true amebic dysentery is that the dose administered is too small. Physicians should be more bold. Some clinicians, for instance, Dopter avers, have condemned the emetine treatment after having prescribed for their patients 2-centigram (1-3 grain) doses for two or three days only. He has seen the dosage increased first to 4 centigrams and eventually to as high as 8 centigrams, and, yet, even when such large quantities of emetine as this were employed the dysenteric symptoms disappeared only slowly, although they were favorably modified. As a matter of fact, cases such as these are the exception rather than the rule.

Dopter is of the opinion that the rapidity of cure depends upon the intensity and the gravity of the pathologic lesion. It is quite certain, he declares, that a deep and extended intestinal ulcer, in which the amebas are abundant and lodged in a poorly nourished burrow and thus not readily accessible to the drug, will resist the action of any medicament much more obstinately than where the lesions are less advanced and the disease more localized.

Furthermore, as Chauffard thinks, there may be cases in which the amebæ have a certain tolerance to emetine. Dopter reports one case in which this explanation seemed possible; nevertheless, he is of the opinion that such cases are very exceptional. At any rate, this is the only one of the kind that he has observed in the considerable number which he has been called to treat.

RELAPSES AFTER THE EMETINE TREATMENT OF DYSENTERY

We now know that recurrences following the use of emetine in dysentery are not infrequent; our good friend Doctor Roemer, of Waukegan, Illinois, for instance, has had to deal with two recurrences in one of his patients. In 57 patients treated by Dopter, there have been recurrences in 15; 3 occurred 28, 30, and 35 days, respectively, after apparent cure; 3 appeared after three months, 5 after five months, and 4 after eight months. One of his patients had two relapses within four months.

Dopter declares that these relapses are more likely to occur when the patient resides in a region where dysentery is endemic. Usually, it seems, the recurrence is readily amenable to a second or even a third course of treatment with emetine. In order to prevent such recurrences, however, Dopter advises a special mode of procedure. It is necessary, first of all, he declares, to employ a sufficient dose; at least 4 centigrams (2-3 grains) should be injected every day until the close of the dysenteric crisis. It is his custom

to continue these injections for four or five days after the appearance of the first molded stool. One even may inject daily 8 to 10 centigrams (1 2-3 to 1 3-4 grains) in attacks that seem unusually severe. It is unusual for patients to experience the least trouble from such doses.

Inasmuch as a recurrence may supervene, especially in hot countries, within eight or ten days after apparent cure, Dopter says we should adopt the method of "successive treatment" proposed by Chauffard, this being similar to that employed by Laveran in the treatment of malaria. This method is as follows:

Fifteen days after subsidence of an attack under emetine treatment (or in some cases even within eight or ten days), the patient is submitted to the same method of treatment as he was at the beginning. A third course of treatment is given three weeks later, and even a fourth course may be instituted after a similar lapse of time, if thought advisable. Furthermore, in very old cases, it is desirable to give every month, during five or six days, a series of emetine injections. This course of treatment may strike one as rather prolonged, but its disadvantages are slight, indeed, when compared with the long years of suffering which so often characterize this disease.

As to the cause of these recurrences, Marchoux thinks he has found it in the persistence in the stools, of those apparently recovered from dysentery, of a round form of ameba, surrounded by a cystic membrane. These encysted amebæ, while less active and less mobile than the ordinary form, undoubtedly are resistant to medicinal action. In time they give birth to young amebæ, which thereupon exercise their harmful action upon the large intestine and may emigrate directly to the hepatic parenchyma, after the emetine has been eliminated from the blood. It is in order to reach the progeny of these resisting forms that the "successive" treatment of Chauffard is suggested.

THE CONSERVATIVE TREATMENT OF VARICOSIS IN ITS VARIOUS ASPECTS

The operative treatment of varicose veins is as old as civilized medicine, having been practiced—indeed, was the sole resort—by the ancient Romans, Greeks, and Egyptians; and it was not until the period of the middle ages that nonsurgical measures came into vogue. Since then both operative and conservative therapy have prevailed; but, with the phenomenal rise of modern aseptic surgery, that treatment has almost completely displaced nonoperative measures, especially within the last decennium, or two.

Nevertheless, there still are within the ranks conservative men, as evidenced, for instance, by the work recently published by G. Nobl ("Der Varikoese Lymptomenkomplex"); and, so, it is a grateful service performed by Hans Fritsch (of the Rudolfinerhaus, Vienna) in preparing a brief review of the present state of the subject (*Wien. Med. Woch.*, No. 2, 1913); this the more so, in view of the great prevalence of varix and its associated troubles.

Before approaching the subject in detail, Dr. Fritsch points out, with reason, that, inasmuch as we know of no means of restoring to normal a distended blood-vessel, other than by operation, the surgeon of necessity will remain supreme; nevertheless, that fact should not lead physicians incontinently to ignore conservative measures. For, there are numerous instances where operating is out of question for some valid reason; while, besides, nonsurgical therapy often can be of great aid in curing or at least vouchsafing relief.

To begin with, the varicose symptom-complex—following Nobl's statement—may be devided into three groups; namely, phlebectasia, stasis-dermatoses, and ulcus cruris (varicose ulcer); and this is the manner in which Dr. Fritsch has arranged his matter.

2. Phlebectasia. The conservative treatment of varicose veins can consist, necessarily, only in a removal of the causes interfering with free venous circulation, and, also, in preventing further vascular distention. Since space limitations here preclude quoting the author in detail, the interested reader must be referred to the original for names and historical data, together with his comments; we merely can follow him tersely in his leading references.

One of the first considerations is, of course, the victim's or predisposed person's mode of life and occupation, which should be changed if that is responsible for an undue amount of sitting or standing; but compliance often is difficult. The next consideration is the aim to strengthen the musculature, which in turn will affect the blood-vessels—hence, occupation entailing walking. Massage and faradization have the same end in view. A general predisposition toward lax muscles is assumed. Tight garters must be removed. Strangely enough, the author does not refer

to intraabdominal pressure upon the vein (constipation, tumor) which may give rise to varicosis.

The second object—checking progression of the process—is accomplished by compression. The first one to substitute bandaging (from the foot upward) for the sole treatment—operation hitherto in vogue, was Savanarola, of Padua (+1462), while his successor at the university already introduced the laced leather stocking. After enumerating the different modifications of material and construction (including adhesive plaster) subsequently brought into use, and naming their advantages and objections (which it would carry us too far to mention), but praising the elastic stockings, Nobl describes a bandage devised by himself; this being a sort of splint made by applying a layer of cotton to the leg and tightly wrapping with starch-paste bandages, which, when dry, are split vertically. They are firmly bound to the leg with bandages. At the same hospital they also often apply a bandage dipped in waterglass, which, after drying, constitutes a firm, elastic, durable sheath.

Pressure upon the open ulcer is secured, if desirable, by fastening over it a rubber sponge, after first covering the cleaned sore with the medicament of choice (glutol-serum being recommended) and gauze.

Especial praise is accorded by Nobl to certain coverings that not only serve to exert a uniform pressure, but are elastic and, being medicated and applied directly, influence beneficially the diseased cuticle. This covering is employed very extensively at the Rudolfinerhaus, and Nobl bespeaks for it a more universal adoption. This is the zinc-gelatin bandage of Unna; and it is claimed that it is cooling and adaptive to changing pressure, thus reducing the inflammatory processes, favoring skin regeneration, and alleviating subjective discomfort.

Unna's formula for his zinc-gelatin basis is: gelatin, 3; water, 9 (soak); glycerin, 5; zinc oxide, 3; liquefy in the water-bath. (In Germany this gelatin is purchasable as "Helfenberger leim.")

The leg, after being shaved, first is thoroughly cleaned with water and soap, then with benzin, and lastly with alcohol. Next a narrow band is placed around the leg at the upper and the lower border of the intended dressing. (This, to obviate disagreeable local drawing of the skin at those points.) Now paint on evenly a moderate layer of the liquefied zinc-gelatin and immediately apply a mull bandage in even passes. When dry, paint over the whole an elastic varnish. If extra stiffness is desired, several alternating layers of gelatin and mull may be applied before varnishing.

In case an ulcer is to be locally treated, a window, or fenestra, is provided in bandaging. According to the conditions of the open sores and the skin, such a covering may remain for three or four weeks.

In the same manner, Schleich's peptone paste may be utilized, the composition of which is: Witte's dry peptone, 20; wheat-starch, 20; zinc oxide, 20; acacia, 40; lysol, gtt. 15; oil of melissa (or other oil), gtt. 5; sterile water, enough to make a syrupy paste. It is applied in 1- or 2-mm. thickness, the bandage selected preferably being of calico. Being rather brittle, though, these dressings do not last longer than five or six days. Schleich often reenforces the armor by winding with a "blaubinde." (The latter, named repeatedly, is not familiar to the translator.)

Coming now to those methods designed to prevent engorgement of the veins with blood, these principally take cognizance of the Trendelenburg phenomenon. The underlying principle is, to exert localized pressure upon the depleted saphenous vein below the knee by means of a garter provided with a pelotte.

The author briefly refers to the attempts that have been made to cause a recontraction of the dilated veins, but only to condemn them all as worthless. Among the remedies that have thus been employed from time to time are hamamelis, ferric chloride, iodine, suplhur, mercurials, and sodium and potassium salts, given internally, to affect the musculature.

The manifold dermatoses following in the wake of varicoses result from nutritional disturbances and exhibit all the characteristics of acute and chronic forms of dermatitis. Theories as to their development differ; however, they are considered the precursors of the ulcus cruris, or, the troublesome leg-ulcer.

In the preeczematous stages, as also when papules and weeping or crusting eczema has developed, Nobl gives preference to starch, Venetian chalk, zinc oxide, and Lassar's paste. When there is considerable irritation, he employs cooling poultices or salves, or pastes (raw linseed oil, 2; lime-water, 2; zinc oxide, 3; elutriated chalk, 3). For very painful, deep-seated inflammation, the application of ichthyol (in the form of embrocation, paste or salve) will prove decidedly grateful. Unna's zinc-ichthyol or, also, Las-

sar's paste with 10 percent of ichthyol are equally beneficial.

In the chronic forms, the incrustations must be loosened with the aid of warm soap-water, or with salves containing sulphur, resorcin or salicylic acid. The removal of the luxuriating connective tissue is best effected by tar-preparations.

In the case of painless erosions, when recent, the surface is readily and quickly cleaned with the aid of Burrow's solution (embrocation), or by dressing with alcohol, bichloride, silver nitrate (1-2 to 2 p. c.), resorcin in 1- or 2-percent solution, or with Billroth's batiste (muslin). When secretion is profuse, and associated with inflammation of the surrounding area of the ulcer (which precludes wet-dressing), drying antiseptic dusting-powders are indicated, such as dermatol, iodoform, airol, xeroform, zinc-perhydrol, etc.)

Dr. Fritsch here cautions against a pyocyaneus infection which frequently is present, particularly in ambulatory patients. While not serious, it may prove rather annoying, and is especially liable to being transmitted. He advises wearing of rubber gloves by the dresser, and burning of all discarded dressings. The ulcer should be covered for an hour (daily) with a compress wet with alcohol containing salicylic acid and hydrogen dioxide.

Obstinate painless old ulcers are treated with alum, the sulphate of zinc or of copper, tannin (1 or 2 p. c.), and with more or less success. Indolent granulations may be removed with nitric acid, silver nitrate, zinc chloride, trichloracetic acid, carbolic acid (pure), etc. Granulation is stimulated, according to various writers, by ichthyol, mercury, resorcin, nitric acid, salicylic acid, and hydrogen dioxide.

For promoting epithelization of scar-tissue, ichthyol is useful. According to Unna, 1 to 5 percent of ichthargan in talcum is an excellent keratoplastic. A 10-percent protargol solution also is recommended, as well as a 1- to 5-percent silver-nitrate solution. Latterly, scarlet-red, in form of a 4- to 8-percent ointment, has found favor; but its use must be begun cautiously, stopping it at the least sign of irritation. It is contraindicated in the presence of callous wound-edges.

The fetid odor, when present, is successfully combatted by applications of hydrogen dioxide, potassium-permanganate solution as also (Nobl) with dressings of gypsum bituminatum, or tar-gypsum. For painful leg-ulcers, of whatever age, Welmer praises three remedies as of exceptional value—anesthesin, propaesin, and cycloform. A little of the powder is first dusted over the wound, and then an ointment (any kind—scarlet-red, peru-balsam, etc.) carrying the medicament is applied. The obtunding induced by the anesthesin is claimed to be of unusual duration. When pain is exceptional, the same writer dresses the ulcer with glycerin of starch holding 20 percent of propæsin.

In concluding this chapter, Dr. Nobl reminds his readers that it is not so much the choice of the medicament that determines success in managing varicose legs, but rather depends upon the energetic and effective compression of the diseased veins. Thus it is that often quite innocent agents, such as boric-acid salve, will effect the cure of extensive ulcerations and dermatides, provided compression is applied, correctly and prolonged; and that in case of severe infection the wound be first effectively cleansed. In subsequent chapters, improvement of the health by physiologic therapy is discussed by the author.

FOR REDUCING FLESH

Some excellent advice for the reduction of flesh, especially in individuals suffering from heart disease, is offered by Dr. John R. McDill (*Wis. Med. Jour.*, Mar., 1914, p. 333). In the first place, it is essential to cut down the amount of food. To do this, the appetite should be controlled by choosing a bland diet, one devoid of such stimulating substances as salt, spices, alcohol, coffee, and other beverages. The patient should gradually eliminate butter and cream and all sweet and starchy food, barring a little bread. The quantity of liquids should be reduced until none whatever is taken with the meals. For thirst, let him eat apples or oranges and drink water, but never until at least three hours since a meal has elapsed. At the table, liquids should be taken through a glass tube, until the craving for drink is overcome. The total quantity of liquid should amount to about three pints, or 1500 Cc., in twenty-four hours. Meat may be taken quite freely when not contraindicated, but without the fat and the flour gravies. Most salads and vegetables may be eaten, also such vegetables as onions, tomatoes, celery, cucumbers, string-beans, asparagus, oyster-plant, spinach, and artichokes. Cabbage in various forms is permitted. One meal a day should be reduced to the minimum. For breakfast, a very good

meal is one consisting of two boiled eggs, half a slice of dry toast, mixed in a hot glass with a little salt. It is best to drink nothing, but, if coffee is insisted upon, use the coffee from which caffeine has been extracted, with a minimum of cream, and sweetening with saccharin.

An occasional "milk-day," as advised in Germany, is suggested. To get the amount of milk required, multiply by 25 the number of pounds over 100 of the body-weight. This gives the quantity required in Grams. For example: If one weighs 250 pounds, multiplying 150 (the excess over 100 pounds) by 25, gives 3750 Grams, or about 4 quarts. The milk may be taken in small amounts every two hours.

The patient should have bath-room scales and keep a record of his weight and appearance; weighing himself twice weekly (without clothing) at the same hour and under exactly the same conditions. The weight should not be reduced more than three pounds per month.

Exercise must be taken in moderation, always stopping when becoming fatigued or when the respiration is hurried, and not resuming until one is thoroughly rested and the breathing and heart action are quieted down.

The only medicament advisable is thyroid extract, which many times is useful.

The antiobesity combination (though it is not referred to by McDill) is an excellent preparation for patients of this class. It does not have the debilitating action of thyroid gland, which latter certainly often is contraindicated.

THIOSINAMIN AS A REMEDY FOR CANCER

Some interesting experiments on the chemotherapeutic treatment of mouse-carcinoma with thiosinamin are described by Harry Koenigsfeld and Karl Prausnitz, of the Pharmacologic Institute of Breslau, in the *Deutsche Medizinische Wochenschrift*, 1913, No. 50. Thus far, it seems, all efforts to influence chemotherapeutically the growth of mouse-cancer have been directed toward interference with the vitality of the parenchyma-cells; while, striking out on new lines, these investigators endeavored to find some agent detrimental to connective tissue, which is essential to the formation of the struma and, hence, to the nutrition of the neoplasm.

Considering the well-known action of thiosinamin (allyl-thiocarbamide) upon connective tissue, this substance was decided upon for initial experiments, and the results thus far have, indeed, proven quite promising on their face.

The diseased mice received from three to eleven injections (both subcutaneously and intraperitoneally) of, mostly, 5 milligrams (Gm. 0.005) of the substance, and its influence upon the tumor became clearly evident from the very first; while in the control-animals (which were rigidly provided throughout the series) their growth proceeded unchecked.

This effect upon the tumors consisted in their arrest or diminution, and even prevented their appearance if the injection was made within two to five days after inoculation, although there was not a single failure in the control-animals. In some of the mice the appearance of the tumor was delayed for several weeks. Sometimes after the introduction of the thiosinamin there occurred softening, necrosis and sloughing of the neoplasms, with final cicatrization (although the tumor conceivably might have continued growing underneath). Results were less certain if the tumor had attained the size of a prune.

Further experiments completely excluded the thiocarbamide group of the compound as the active factor, that leaving the allyl group as responsible for the phenomena observed. And this was verified by tests with other allyl compounds, although their deleterious influence upon tumor growth was not nearly as pronounced as that of the allyl-thiocarbamide, or thiosinamin.

The authors feel encouraged in prompting further investigations in the direction here seemingly pointed out, although other writers are less optimistic. It is pointed out—by Karl Lewin, Berlin, for instance (*Ther. d. Gegenw.*, Jan., 1913), as well as others—that other noxa capable of injuring bodily well-being often also arrest the development of tumors, so that in the present instance we need not at all assume a specific action of the thiosinamin upon carcinomatous tissue.

Miscellaneous Articles

Narcotic Legislation: That Record Feature

ONE reason for opposing the amendments to the Harrison Antinarcotic bill proposed by Senator Knute Nelson is the provision that the physician shall be required to keep a record of all the narcotic drugs he may administer, no matter how small the quantity, and regardless of the purpose for which they are employed or the form in which they are used. This record-keeping feature plays an important part in the Boylan bill recently passed in New York state (see editorial, page 473), and similar bills have been introduced in other legislatures, New Jersey and Rhode Island, for instance.

The editor of the *Providence Medical Journal* in his May issue in a very witty way—but one not less effective for being witty—shows how laws of this kind would affect the general practitioner. He is discussing the Zurlinden bill, pending in the Rhode Island legislature. We quote as follows:

If the amendment of Section 13, of chapter 178, of the General Laws entitled "of Medicines and Poisons" offered by Mr. Zurlinden, passes both houses, the following will be an extract from the Diary and Daybook of a country physician in this State:

July 1, 1914. New law in force today, so took account of stock.

It shall be unlawful for any physician, dentist or veterinarian to possess more than one and one-eighth ounces of alkaloid cocaine or its salts or alpha or beta eucaine or their salts, of alkaloid morphine or its salts, of heroin. Any person who shall violate any of the provisions of this clause shall be fined $50 for each offense.

Find I have two ounces of morphia sulphate, 1000 1-4-gr. tablets and four ounces of 4 percent cocaine and a sample of glycoheroin. Query, what shall I do with the excess?

Any person who shall sell, offer to sell, furnish. dispose of or give away alkaloid cocaine or its salts, alpha or beta eucaine or their salts, alkaloid morphine or its salts, or heroin or any admixture, compound, solution or product of which cocaine or eucaine, morphine, heroin or their salts may be an ingredient, except under the conditions and to the persons authorized by this section shall be fined not less than $100, and not more than $500, and upon conviction of a second offense shall be imprisoned for a year in the county jail.

Find I can't sell it or give it away, so decided to bury it in the back yard 4 feet S. E. of hencoop. The law says:

Every duly registered practicing physician, licensed veterinarian, or licensed dentist shall upon delivery to him of any of such substances purchased by him, make or cause to be made in a book kept for the purpose, an entry of the purchase thereof, stating the date of purchase thereof, the quantity purchased, the name and form in which it was purchased, the name and address of the seller, the name of the person by whom the purchase is made, the name of the person by whom the entry is made, a description of the package or container in which the substance is purchased, and a statement that such substance was sold and purchased in the original package, that the package was sealed, that the seals thereon were undamaged and unbroken, and that the labels were attached thereto as hereinabove described and were not in any manner defaced or damaged, and a statement showing how delivery was made, whether personally or by mail, express, freight, or messenger. There shall also be recorded in such book the particular place in which such substances so purchased is to be kept by the purchaser, which place shall be easily accessible and shall be within the state of Rhode Island and shall not be changed except that at the time of such change an entry thereof be made in such book opposite the original entry of the purchase and signed by the purchaser. The record and statement thus made in such book shall be signed by the person purchasing such substance and may be received in any court against the person receiving such substance and against the person to whom the same is sold as evidence of the transaction recorded and the facts stated therein. Such book and record shall be kept in the regular place of business in the state of Rhode Island of such purchaser, and shall be open at all times for inspection by any prosecuting officer in the state or his subordinates and by such persons as may be designated by him. Such book shall be preserved for at least five years after the date of the last entry made therein.

And in accordance therewith the following is the record required:

	Morphia.	Cocaine.
Date of purchase	June 1, 1914.	July 1, 1914.
Quantity purchased	.1 1-8 ozs.	80 grs.
Name and address of seller	Blanding.	Geo. L. Claflin.
Purchased by	self.	son.
Entered by	self.	self.
Description	9 bottles.	1 bottle.
Original package	yes.	no.
Sealed	yes.	no.

	Morphia	Cocaine
Condition of seals	intact.	broken.
Labels attached	yes.	yes.
Delivery	mail.	boy.
Place kept	top drawer of desk.	cupboard over sink.
Signed	John Smith, M. D.	

July 2. Two cases of cholera morbus during night. Gave each two tablets of morphia, 1-4 gr., obliged to furnish certificate.

It shall be lawful for any physician duly registered and licensed to practice in the state of Rhode Island, after personal examination of a patient, to prescribe and himself dispense such substances to such patient, provided he shall execute and deliver the certificate required of a dispensing druggist or pharmacist. When any such substance is so dispensed or sold upon such written prescription of a physician, the person selling or dispensing the same shall simultaneously deliver to the person to whom the same is sold or furnished a certificate stating the name and address of the person selling or furnishing such drug or mixture, the name and address of the physician upon whose prescription the same is sold or furnished, the date of sale and the amount sold.

July 3. Frank Jones's boy got some powder in his eye trying to celebrate the Fourth. Gave him some cocaine to use and had to give another certificate.

July 4. This giving certificates with every case of belly ache is getting tedious. It takes time to write them and they don't always wait. Peter Jenks went off without his and his brother-in-law is sheriff and has it in for me because I sent him a bill.

July 5. Sheriff Bunker appeared this morning and said he understood I had supplied his brother with morphine and called attention to the law, which says:

Every duly registered practicing physician, licensed veterinarian and licensed dentist shall make a record of the amount of each of said substances possessed by him in a book to be kept for that purpose, which may be the book in which purchases are recorded. Such book shall be kept at the regular place of business of each of said persons in the state of Rhode Island, and there shall be specifically stated in such book the amount of each of said substances possessed by the person making the record and the particular place in which the same is kept. Such book shall be open to inspection by any prosecuting officer in the state or his subordinates and by such persons as may be designated by him.

and demanded that I show him how much morphia I had and where I kept it. I had used it so frequently, I forgot to put it back in the drawer and so it was not in the place of record, and just then that darned dog of Jim's brought in an ounce of morphine in a bottle he had dug up in the yard and I was over weight. I am arrested. Bunker is counting the drops of cocaine to see if I have too much.

July 6. Had to make out a long affidavit to the State Board of Health.

If any of the persons entitled to possess such substances in any amount shall possess an amount in excess of that authorized by clause (1) it shall be the duty of each of such persons to report in writing to the state department of health within thirty days after this act takes effect, the amount of each of such substances possessed by him and the place where the same is kept.

If anybody has a pain that won't be relieved by peppermint, he had better go to Dr. Brown. I am out of business; have no time to spend on patients; am kept busy complying with the law. Last night Frank Thompson's baby got at his whiskey bottle and drank enough to cause his death. I don't notice any law about that. I wonder who Mr. Zurlinden is, anyway.

We are pleased to say that the Zurlinden bill was defeated.

SOME INTERESTING LAY REMEDIES

In the following lines I wish to speak of several therapeutical agents that I have found very effective, and which I did not learn from books or from physicians, but from the old grannies and other lay people.

One of these is the honey-bee tea for spasmodic stricture of the prostate-gland and urethra in man or beast. I first saw it used on an old family horse of my father's (when I was 12 years of age), after two horse-doctors failed to relieve the horse either by medicine or the horse-catheter. An old Southerner said that a tea made from nine live honey-bees in a quart of hot water would make him pass his water within twenty minutes. I had the horse drenched with a quart of the tea, and the old horse deluged the ground with his urine in just seventeen minutes.

After I had begun to practice medicine, I relieved a valuable horse of spasmodic stricture by means of this bee tea, after a well-educated veterinary surgeon had entirely failed after twelve hours' trial.

Later, I gave it to quite a number of my male and female patients, and with seldom a failure to relieve.

I have never seen but one notice of this simple remedy in print, and that was by Professor Eve (in 1850) in *The Nashville Medical and Surgical Journal*. He had confined the wife of a rich plantation owner near Nashville. He visited her on the second day. She had not passed her urine. He tried to draw her water with the catheter, but failed. Prescribed medicine to relieve her. Called next day and found her unrelieved. Tried to draw her water with the catheter, but failed to introduce it. The nurse of the patient was an old-granny midwife for the blacks. She told Doctor Eve that she could give her mistress something that would make her pass her water in a

very short time. The doctor asked to know what it was. She told him it was honey-bee tea. He finally consented to his patient's taking the tea, whereupon the old mammy hastily prepared the tea and gave her mistress two saucerfuls; and the doctor stated that she passed water in less than twenty minutes after she had taken the tea, and with but little pain.

The Doctor asked the negress where she got her information, and she told him all the old negro grannies had used it for as far back as she could remember. It is harmless, and surely effective, according to my own personal experience.

The next good negro remedy is from Arkansas, told of by an old ignorant cooper. I had, in the year 1854, a severe attack of chills and fever, which ran into a violent congestive form. Everything that I and one of the best physicians in the town could think of had failed to stay the chills or reduce the after-fever. On the third day I was seized by a chill at 9 a.m. and it continued till 3 p.m. I vomited continuously, until nothing was left inside but my soul, so it seemed, and I came very near throwing that up, too; I became unconscious, cold up to my knees,and elbows. My doctor gave me up to die. Word went out in town that I was dying, and many old friends came in to witness my exit.

The old cooper spoken of, seeing so many people go into my house, also came in to see what was the matter. My good wife was just applying hot cloths to my chest and body; so, the old man asked what the trouble was. When the doctor told him it was congestive chills, the man asked: "And can't you break the chill?" Told that everything tried had failed, the old fellow assured them he could do it. So, after directing my wife to have some boiling water ready, he went out, and in a few minutes returned with a handful of stinging-nettle tops and roots. These he put into some boiling water, without even washing, steeped them a few minutes and brought in a saucerful of the tea. He ladled this tea into me by teaspoonfuls, none coming up; then he got another saucerful and spooned it down.

When I became conscious I felt a stinging sensation all over and began trying to move my limbs. The old fellow asked me what troubled me, and I said, in a whisper, that something was stinging me. The old man laughed and assured my wife that the chill was broken and that I needed no more medicine, except the nettle-tea. But, in an hour or two, my entire body was broken out with a rash like the hives, and the limbs were as yellow as dandelions. That rash stayed on for four or five days, and after it disappeared the entire outside skin of my body peeled off, even to the palms of my hands and soles of my feet.

The doctor asked the old cooper where he got this cure for congestive chills, and was told that "down in Arkansaw on the Red River" it was very common among the negroes, and that a big dose of calomel and this nettle-tea was about all they used, and that it was effective.

My next good lay remedy I will name is oats-tea. This I got from an old illiterate midwife, after another physician and I had entirely failed, after a day and night's trial, to stop vomiting in a case of acute gastritis in a lady forty years old. The old midwife said that she found it the only relief in the vomiting of pregnancy. The tea was made from a half pint of clean oats steeped in a pint and a half of boiling water. The woman in this case took a saucerful gradually, and she ceased to vomit after the first swallow of it.

One of the best remedies in acute and chronic rheumatism is the oil and the saturated tincture of fetid hellebore (helleborous fœtidus). The oil and the tincture must be prepared from the *green* root of the hellebore, as the active principle (the oil) is entirely lost when the roots are dried. The hellebore roots are the only green roots of which I know that are full of oil. It can be pressed out or got by distillation with water.

I could give you many cases where these proved effective, but space forbids. I have never known the oil of hellebore to fail to give relief in any case of rheumatism or ankylosis resulting from rheumatism. The oil is used for ankylosis by bathing the tendons around the stiff joints and then covering with rubber tissue. The normal tincture is used for the rheumatism three times a day, before meals, in teaspoonful or dessertspoonful doses; or sufficient to produce a little flush in the face and slight dizziness or pains in head. It is a powerful drastic emeto-cathartic. This remedy I got from an itinerant Indian doctor and also from an Old Country midwife. The hellebore plant is rare, and is known by the laity as bear-foot. It is surely a near-specific in rheumatism and beats all the salicylates and the other drugs in common use by the doctors.

My next lay remedy is one for deep-seated cancer. This is a paste made from wood- or sheep-sorrel (oxalis acetosella). It is prepared by bruising a quantity of the oxalis into

a paste and letting it stand in the open air for a day or two. After cleansing the cancerous growth of all pus, apply a coat of the pulp a quarter inch thick all over the raw surface and let remain for two and one-half hours. Then apply a fresh plasma; leave this on for twenty-four hours, and, after removing this, apply flaxseed meal poultices for three or four days, or until all the dead tissue is thrown off in a mass. Now cleanse and dress the wound with a salve made from verdigris until healed.

I got this remedy from an old farmer from Monroe County, Ohio, who said that he was witness to the cure of four cases of deep-seated cancer with the wood-sorrel paste after the best physician in the county had given up the case as incurable. The fifth case was one of my own, and a bad one. I had given up the case as incurable by means of local applications. Then I tried the old farmer's oxalis paste. Result, a complete cure, with no return of the cancer.

In examining the paste, I found it full of minute crystals, perfectly formed, looking like, and as clear as, pure glass. I then studied up the active principle of the oxalis, and found that this is only the oxalate or binoxalate of potassium. I have not been able to use the oxalis paste again, being located where I could not obtain the herb when treating cancerous growth, but I would here suggest the use of the binoxalate crystals in cancerous growths.

My next old-granny remedy is for morning-sickness in pregnancy. I had a case I could not relieve by any known remedy, and when I had given up hope, except to try premature delivery, an old lady midwife called to see the patient when I happened to be there. She asked me if I had ever given peach-leaf tea in such cases; but I had never heard of such use of the tea. After saying she had long used it in such cases with uniform relief, she got my consent to try it. Sure enough, vomiting ceased as soon as the woman had given the tea made from a handful of fresh leaves. The tea was continued for a week or two, and the lady had no more attacks of morning-sickness. I had previously tried dilute hydrocyanic acid without effect. The peach-leaf must have some other active principle besides the hydrocyanic acid.

I must stop at No. 7, as you must know that 7 has been the lucky number since God made this good old earth, both in the old and in the new dispensation.

And if I am suffered to stay a few days longer on this earth I may give you seven more good remedies obtained from like origin.

I have had an experience of 69 years in the practice of regular medicine and have treated all well-known diseases of this part of North America, save bubonic plague and pellagra, and have tried to keep up with all the improvements made in medicine and surgery in that time. But, I have found that one-half or more of all that is written about in the books and medical magazines is of no personal benefit either to the physician or the patient.

The condensed facts in THE CLINIC make it a therapeutic necessity to the busy practitioner. Now, lest I may not weary you again with my crippled letter, I say, "Improve the journal, inside and outside."

I have just received the January number. It looks good outside. Have not looked inside yet, but am anxious to see the inside—so, goodby. Be as good in the future as in the past, and you will deserve the applause of all your patrons.

J. W. HOFF.

Ann Arbor, Mich.

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[Dr. Hoff is, we believe, more than ninety years of age. This is a remarkable paper to come from one of his years—remarkable, suggestive, and valuable.

The plant-genus hellebore includes twelve species, all native to middle and southern Europe, and all containing the same active principles, although in various actual and relative percentages; and for general information the reader is referred to any one of the Dispensatories. As to the particular species referred to by Doctor Hoff—fetid, or stinking, hellebore—that is, botanically, the helleborus fœtidus, a plant found in our gardens for its pretty flowers. This species generally is considered the most active, a fact acceded to by the American Dispensatory.

It is fortunate that the Doctor further identifies this plant (bear's-foot; fixed-oil content), for some people call the common skunk-cabbage (symplocarpus fœtidus) also stinking hellebore. One of the species closely allied to helleborus fœtidus is the helleborus viridis, or green hellebore. This fact gives occasion to warn against a possible confusion of this with another poisonous drug-plant, namely, veratrum viride, which also is called green hellebore. In view of the danger involved, veratrum viride (liliaciæ; active principle, veratrine) never should be called green hellebore, or, at least, one always should specify *American* green hellebore. This plant is absolutely not related to the true green

hellebore (ranunculaceæ); principal active constituent, helleborin. This is an illustration of the danger in using folk-names rather than a standardized scientific nomenclature. By the way, this helleborus fœtidus is honored with at least two more names by the "Yankees"—garget and setter-wort.

According to Felter and Lloyd, the herbaceous parts of the latter plant are very acrid and excoriate the mouth when chewed, and the drug acts as an emetic cathartic. Therapeutically little is known in this country. The decoction of 1 dram to 8 ounces of water is employed (dose, 1 ounce) in asthma, hypochondriasis, hysteria, and for tapeworm.

So much for one of the remedies mentioned by Dr. Hoff. Much might be written about the others—the honey-bee for instance. We suspect, however, that some Homeopathic brother will come forward with information regarding Apis mellifica.—ED.]

APPRECIATIVE COMMENTS UPON MARCH CLINICAL MEDICINE

The March number of CLINICAL MEDICINE is so good that I feel impelled to tell you just what I think about it. To begin with, there is the editorial on page 200, "Another Burden for the Physician." This would suggest that a petition bearing the names of all the CLINIC subscribers be sent to the postmaster general and show him wherein he is wrong.

Then comes the one on "Sexual-Instruction Crusade." This sexual question should not be discussed in school, but, if so, it should be in a postgraduate course or be taught to girls after they are twenty-one years of age, through lectures given in each county by a lecturing staff composed of ministers and physicians, or, cheaper and better, at the appropriate age place a properly written book in the hands of each girl, as at the age of twenty or twenty-one she could not be hurt by plain facts presented in a plain way; many ere this have read "Life's Shop Window," "The Yoke," "Together," "Three Weeks," and "The Countess of Cythera." Their mental virginity at least has been more affected by such reading and by the daily scenes and teachings of our up-to-date life than would be the case from proper teaching on sex-life at the proper age.

"Some Fallacies in Regard to Contagious Diseases," page 221. There is much that is good in this article, though I think that it is a fallacy to say that germs of scarlet-fever, and so on, cannot be carried by clothing. I think contagious diseases should be quarantined; that quarantine should protect where there is scarlet-fever or the like; that all who remain in the house should be quarantined, and not just the room, patient, and nurse, allowing all the others to go to and from the patient. If a question of bread and butter arises, that is a matter for the county commissioners or board of aldermen of the community.

"Emetine in Dysentery," page 225. This is an excellent article. I think, that an injection of hydrastinine and emetine would be a good treatment of all forms of dysentery and bowel hemorrhage, especially in children where the stomach fails to retain or absorb medicines given by the mouth. Emetine, or rather ipecac, for these diseases is not a new treatment—see Bartholow, 5th edition, 1883, page 267. Here the idea is so well expressed that I beg permission to quote at length.

"Notwithstanding these drawbacks, it must be conceded that ipecacuanha is a most valuable remedy in epidemic and sporadic dysentery. It has been shown that in India, before the introduction of this method of treatment, the mortality from dysentery was about 79.6 per 1000 of cases; but, since the use of ipecacuanha has been generalized, the mortality has fallen to 20.15 per 1000 cases.

"Ipecacuanha has also been used with success in chronic dysentery, but, in the author's experience, it by no means is so beneficial as in the acute. It succeeds best in those cases which are the outgrowth of acute attacks, and in which the intestinal ulcerations are not far advanced. The rules for its administration are the same in chronic as in acute dysentery.

"In the summer dysentery and diarrhea of teething children, ipecacuanha often is extremely serviceable. The special indication for its use is the occurrence of greenish stools, containing mucus and sometimes blood. The stools are usually voided with much pain and straining. At the same time the skin is harsh and dry, the tongue rather dry and pasty or glazed, and there is great thirst, although little or no fever may be present. Ipecacuanha changes the character of the stools, induces perspiration and allays the thirst and dryness of the mouth. From 2 to 5 grains every two hours may be given in these cases or it may be administered in pepsin, oxide of zinc, bismuth or other remedies. Recipe: Ipecacuanhæ, grs. 12; bismuth subcarb., dr. 1; pepsinæ sach., dr. ss. M. Ft. pulv. xii. Sig.: One in milk every two hours.

"The evidence is conclusive that ipecacuanha possesses very valuable antihemorrhagic powers. It has been successful in hemoptysis, epistaxis, menorrhagia, postpartum hemorrhage. As Peter has observed: 'The vomitive medication' (ipecacuanha) 'arrests not only hemoptysis but all kinds of hemorrhage, and is, therefore, a general "antihemorrhagic" medication.' In hemorrhages, ipecacuanha should be given in frequently repeated doses until vomiting ensues; usually when this effect is produced the hemorrhage ceases. Other antihemorrhagic agents may be combined with ipecacuanha. Recipe: Ext. ipecac, fld., drs. 2; ext. ergotæ fld., drs. 4; ext. digitalis fld., drs. 2. M. Sig.: Thirty drops to a teaspoonful at a dose. The author has witnessed excellent results from this combination in hemoptysis and menorrhagia.

"In the treatment of postpartum hemorrhage, the most suitable combination is, fld. ext. ipecacuanhæ and fld. ext. ergotæ. Trousseau strongly urges the employment of ipecacuanha in postpartum hemorrhage, and, indeed, in the various accidents which occur in the puerperal state, among which he designates gastrointestinal irritation, suppression of the lochia, subacute metritis, pelvic cellulitis, bronchial catarrh, subacute pneumonia."

"Potassium Mercuric Iodide," page 251, is welcome and will prove a godsend. Could not the CLINIC laboratory put it up in convenient shape? This perhaps will serve a good purpose in lavage of the bladder and for injections in gonorrhea, etc.

"The Question of Fees," page 263: Dr. Burnett writes to the point: wish he would give "more light." What would he term a "liberal fee" for different chronic cases by week or month, office treatment or by calls at house; for instance, for treatment of syphilis, rheumatism, scrofulous cases, old ulcers, and so on? We wish to cure as quickly as possible, although to abort or cure a case at once is "suicide" to the pocketbook. How can we show a patient that we deserve a special fee for special services or results?

"A Convincing Demonstration of Typhoid Bacterins," page 266: I believe that we shall realize great things from this line of medication. The article is good though I wish that the writer had been more specific as to dosage, page 267: "4,000,000,000 dead typhoid bacilli were given"—how and when were the doses timed for streptococcus pyogenes, 30,000,000, pneumococcus, 40,000,000, colon bacillus, 40,000,000, and what sites were chosen for injection? To be certain that these cases were typhoid, laboratory tests should have been made. The treatment suggests other infections.

"To Prevent Professional Suicide:" How can we show the patient and "make our charges in accordance with the speed and sureness of our method," and what would be a proper charge for the abortion or quick cure of a given disease?

"Pituitrin as an Aid in Obstetrics," page 268: Does not this remedy give a too forcing treatment, which all writers condemn, or does it dilate the cervix? If it simply increases uterine action without dilating the cervix, it would have all the dangers ascribed to ergot.

"A New Way to Know When Women Will Be Mothers:" This article is very interesting. Please give us full directions how to make the test, which the article failed to do.

C. W. HUNT.

Brevard, N. C.

[The Abderhalden reaction, used for the diagnosis of pregnancy, was described in an editorial on page 290 of the April number of CLINICAL MEDICINE.—ED.]

INANITION-FEVER

So far as my reading goes, very little has appeared in the journals on this not rare disease, inanition-fever of the newborn, which is a disease of the first five days of life, and is characterized by a rise of temperature, loss of weight, restlessness, and so on, the result of starvation, and independent of a pyogenic infection. While the disease may prove fatal from nonrecognition, on the other hand, cases recognized and treated respond nicely. Observations at the Sloane Maternity established the fact that a rise of temperature to 102 to 104 degrees is quite common. As indicated, the disease is due to some form of starvation, and is not caused by an infection.

My own experience is limited to three distinct cases, in two of which the little ones were noticed to be sick in the latter part of the first twenty-four hours, while in the other case (the last), the trouble was discovered in fifty-one hours. All three were fine, normal infants; two of the mothers were exceedingly strong and healthy and had large families, while the other mother was more delicate and slender, but had no history of disease. The nipples of these women were flat and their breasts small.

The symptoms of inanition-fever are these: An apparently normal infant, in from twenty-

four hours to five days after birth, becomes restless, the face is flushed, lips are cracked, the body is hot, there is an almost continuous feeble whine, pulse is weak and very rapid, and the thermometer will show a temperature of 102° to 105° F.; in 2 of mine it being 102 to 103.5 degrees, and 104 in the last case. Loss of weight is noticed early.

The diseases due to bacteria hardly will be confounded with inanition-fever, the time of appearance of pyogenic diseases being later—five days or more—and then, I believe, the *water test* will differentiate them. There is the whining cry; a dry, hot skin; cracked lips; a temperature of 102° F., or lighter in the first two to four days. Besides, examination of mother's breast for secretion gives a further clue.

It is stated that such children may die, but I do not know what percentage. (Possibly our editor will enlighten us.)

Treatment is very satisfactory and exceedingly simple. Feed boiled and cooled soft water, one ounce every two hours until the temperature is normal; also, depending on the case, give normal salt-solution enemata. Further, change, for the present, from the mother's breast to percentage feeding or a wet-nurse (a scarce article in the country!).

MAYER SHOYER.

Wheaton, Kans.

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[Unfortunately, the editor knows very little more about this rather obscure condition than Dr. Shoyer has set forth in his communication; and, although we have searched high and low in our library for literature on the subject, we have been unable to find anything more than the barest mention of the disease, and that only in one or two places. Here is a good chance for enlightenment from the experiences of the readers of CLINICAL MEDICINE. Who will volunteer some information?—ED.]

PELLAGRA TREATED WITH BULGARIAN BACILLI

A good suggestion for the treatment of pellagra is made by William L. Law in *The Journal of the American Medical Association* (July 5, 1913, p. 27), who, in a brief preliminary note, says that in the last five typical cases of pellagra he has treated he has prescribed the Bulgarian lactic-acid bacilli in tablet form, two tablets being taken half an hour before each meal and at bedtime. Doctor Law says that the improvement in appearance and subjective symptoms of these patients warrants this preliminary report.

This suggestion seems to be a most excellent one. Certainly these tablets are indicated in cases of this kind in which various intestinal antiseptics have been employed with excellent results; and it is to be hoped that many of the readers of CLINICAL MEDICINE practicing in the South will give this method of treatment a thorough trial and report their results through this journal.

ENDOMETRITIS BY MEANS OF ELECTROLYSIS*

The treatment of chronic endometritis by means of electrolysis is not new, still, it is not as well known as it should be; for, in this stubborn and persistent condition, it is gratifying to the patient no less than to the physician, provided the treatment is applied correctly. Perhaps the best way to impress upon your minds this beneficial and satisfactory method of treatment will be to recite several cases from my record-book.

Case 1. Woman, age 25, primipara. Never was sick, except for the usual childhood diseases; never had a miscarriage. Appetite, good; bowels, regular; menstruation, always painful; abdomen enlarged as at 4-months' pregnancy; backache, headache; face, sallow and blotched; cannot walk much without getting tired; feeling as if everything is about to fall out when on her feet. Had been curetted four years previous to coming under my observation, and had been subjected to prolonged local medicinal treatment after the operation, but without any relief.

Examination disclosed an enlarged uterus in the normal position, stenosis of the cervix, all other organs in a normal condition, but the ovaries sensitive and painful to bimanual manipulation.

The treatment was given by placing a dilating electrode against the stenosed cervix and attaching it to the negative pole of the galvanic battery; a large pad was placed on the stomach and connected with the positive pole. She received a 5-milliampere constant current for twenty minutes every other day. The stenosis was corrected by the second treatment, when the regular-shaped uterine electrode was substituted.

A most remarkable phenomenon occurred in this case. On my first examination there was no discharge from the uterine canal, but, as the stenosis was overcome, a thick, yellow

*Paper read before the California State Eclectic Medical Society.

profuse discharge followed, and this gradually became lighter in color with each subsequent treatment. In four weeks the woman had had twelve treatments, and by this time the discharge had entirely ceased, the uterus was reduced to the normal size, and, much to her surprise, she was compelled to have her dresses made shorter in front. This was in 1905, and she has been in perfect health ever since.

Case 2. Woman, age 28, primipara. Personal and family-history good; no miscarriage. Always has suffered from painful menstruation; has backache and headache constantly; tires easily at the slightest exertion; unable to pass urine freely. Had been under treatment for eight years, without relief, treatments including tampon applications as well as all sorts of electrical modalities, but never intrauterine electrolysis.

Examination disclosed a stricture of the urethra, also stenosis of the cervix; uterus and ovaries tender to the touch, making marital relations impossible.

In order to overcome the soreness of the pelvic organs, I placed her on a high-frequency couch, inserted into the vagina a glass vaginal electrode, while on the lower part of the abdomen I placed a tinfoil electrode, then made connection with the high-frequency coil. She received this treatment daily for ten minutes, using as much current strength as was comfortable. In two weeks there was cessation of pains.

The stricture of the urethra was overcome by means of the gradual dilation of the canal by the use of the negative direct current, using a 5-milliampere current for five or ten minutes or until the bulb electrode could pass to contracted portion of the urethra. This was repeated once a week until the normal caliber was reached. The uterus was treated about as in the preceding case and for a period of nearly four months, ending in perfect satisfaction to the patient, who had her confidence restored in the man of medicine.

Case 3. Woman, age 35, multipara. Good family- and personal-history. Illness since birth of baby—ten years. She was hysterical, melancholic, inclined to commit suicide; constantly had backache and headache. Had been curetted and been submitted to various kinds of treatment, with but temporary relief.

Examination revealed an enlarged uterus, painful to the touch, cervical erosion, and a thick purulent discharge from the latter.

An aluminum uterine electrode attached to the positive post of a constant-current battery was inserted into the uterine canal, and a large pad connected with the negative post was placed on the back over the sacral plexus. Only a 2-milliampere current was given for ten minutes, and every other day, owing to the sensitiveness of the uterus; this, however, was gradually increased to 5 milliamperes for twenty minutes at a time. Three months of this treatment changed woman to a pleasant, hopeful and ambitious person.

Intrauterine electrolysis tends to promote sympathetic nervous innervation, with the result that patients gain both flesh and strength. This treatment also will reduce weight where one is bloated from a subinvolution of the uterus and consequent large abdomen, as the following case will show.

Case 4. Woman, age 31, multipara (5 children, all healthy); confinements easy. Personal- and family-history good. No organic disease. She was a hysterical and nervous wreck, the least worry or excitement causing collapse and unconsciousness. She had not menstruated for thirteen months past.

Examination disclosed an extremely enlarged uterus, the canal being 4 1-2 inches in depth; tubes and ovaries free from disease. Her weight was 325 pounds.

The treatment consisted of intrauterine positive electrolysis, with the aluminum electrode used about as in the preceding case during a period of two months, in which she lost about 25 pounds, and the uterus contracted to nearly normal. Then, owing to the illness of one of her children, these treatments were discontinued for about two weeks, and during that time pregnancy took place. In due time a healthy girl baby appeared. Three months after this episode, the mother's weight was found to be only 200 pounds, and she said she never had felt better in her life.

I find that a weak current—from 3 to 5 milliamperes — for a period of twenty or thirty minutes gives better results than a stronger one—of, say, 10 milliamperes or over —for a shorter time. It is much more beneficial and soothing and does not cause any disagreeable after-sensations, as the strong one generally will.

I prefer an electrode of aluminum for positive intrauterine electrolysis to copper or zinc, as this metal does not adhere to the tissues acting in this respect like platinum, and with better results than either of the other two.

I wish to warn you, however, that, when treating these cases with this modality, it is absolutely necessary to be certain that no extensive adhesion in the pelvic cavity, pus

tubes or cystic ovaries are present. In that case, electrolysis will stir up a smoldering volcano and will surely cause the patient to lose confidence in you, as it would necessitate an almost immediate operation; and it may even possibly happen that the doctor will be held responsible for this septic or inflammatory condition. This misfortune will never occur if, by a careful examination, the conditions named are excluded before treatment is begun. It is to be expected, of course, that the operator has made the parts perfectly aseptic before applying the electrodes, the latter also having been subjected to the same process. The following case will illustrate this point:

Case 5. Woman, age 22, nullipara. Good personal-and family-history. Menstruation always painful. Had had several falls at horseback-riding in her early youth. Now was anxious for a child, an heir.

On examination, I found the uterus firmly adherent, stenosis of the cervix, and, on bimanual examination a hard, tense sensation in the cul-de-sac.

I informed the woman that an operation was the only thing that would help her. However, she prevailed upon me to try to obviate that, telling me of several of her friends who had been benefited by intrauterine electrolysis. I consented to try its effect, with the understanding that, if her condition was aggravated by the treatment, I was not to be blamed. As I had feared, though, after the fourth seance of intrauterine treatment, she had to be taken to the hospital for an operation.

A. S. TUCHLER.

San Francisco, Calif.

[Two significant considerations arise out of this report of Dr. Tuchler's. First: It is quite certain that the general practitioner does not avail himself nearly as much as he should of the electrical methods of treatment, especially in gynecology, where it has its largest field of usefulness. We have consistently tried, in many ways, to promote the use of this mode of therapy among our readers, and flatter ourselves that we have done so to a considerable extent. But we are convinced that there is still a very large contingent that has never so much as tapped the possibilities of this promising reservoir of resource. It is a great pity that it is not more universally utilized.

Second: Electrotherapy is neither a cure-all nor an automatic, self-operating system. It is useful only in properly selected cases, and requires just as much judicious discrimination in its employment as any other medical or surgical agent. Electricity is "a fine mechanism-man, but brains it has nix." The brains must reside in the man who uses it. Without this faculty, electricity in medicine may not only be ineffectual, but may do as much harm as good. How easy, for instance, as Dr. Tuchler suggests, for the doctor to overlook the danger of electrolysis in cases of pelvic sepsis, and then for the untoward results to be blamed, not only on the doctor by the patient, but by the doctor on electrotherapeutics in general.—ED.]

JEWISH RITUAL CIRCUMCISION

A short time ago I delivered a male baby in a Hebrew family and, being asked whether I would circumcise the child on the eighth day, I assented; however, when it was found that I intended to administer an anesthetic, while, further, the rabbi would come from the city and perform the operation for five dollars plus the fare, the thing was off. The rabbi was employed; but, anyway, I was very kindly invited to witness the circumcision and other ceremonies.

I will here affirm that I have great respect for the God of the Jews, perhaps more so than some of the Hebrews themselves, and this is not intended as a criticism of the custom of circumcision or its continuance in this dispensation. But, if the rite must be continued, then, I submit, such modern methods should perforce be enjoined upon those who perform it, whether rabbi or doctor, as not only will make the operation scientific, but humane.

I was told in advance that the operation is almost instantaneous and painless and that, though the child cries, it forgets it as soon as the breast is again given it.

On this occasion the child was placed on a table and the father sat down at its head and grasped the legs and brought them forward on the abdomen, as instructed by the priest. Another person gave the child a cloth nipple to suck, and kept this saturated by dipping it in a cup of whisky, sugar, and water—as the rabbi said, "We get him a little drunk first." Then the operator drew the foreskin through a slit in a flat clamp and when ready began repeating rapidly his ritual formula, while simultaneously making a sawing motion on the foreskin with a small razor. It seemed as though the cutting had to be timed to end with the verbal part of the ritual, which, I

must say, seemed unnecessarily long from the baby's point of view.

After the clamp had been removed and the skin had retracted, he took up a fine-pointed scissors and snipped the mucous membrane in the median line down to the corona. He then turned the corners back with his fingers and trimmed off what seemed to be redundant, but left it long, and with his thumbs and forefingers forcibly broke up adhesions and turned the mucous membrane back of the corona upon the skin margin, like a cuff. No sutures were taken. A little blood was sucked out by placing over the parts a glass globe with a mouthpiece, to which the operator applied his lips.

This done, a narrow bandage was wound tightly around the part just behind the corona, covering the coated skin and mucous membrane. There was no question that this would stop hemorrhage, so tightly was it applied, but it caused turgescence of the glans, external to the dressing, that did not look as though it could be comfortable. There were some antiseptics used, and the work was creditably done in all respects, save, perhaps, one, the brutality of it.

After it was over and the baby had been returned to its nurse, "See," said the rabbi, "the baby is not crying now."

It is doubtless true that the child felt as well after it was over as if a doctor had performed the circumcision under anesthesia, though I can not think it was as comfortable with that tight bandage, necessary from the lack of sutures, as if sutured and dressed accordingly. But this child cried and struggled, just as you would expect from that amount of manipulation, while especially the slitting of the mucous membrane and snipping it off seemed to cause great pain.

I remonstrated with the rabbi, saying that, even in so small a subject, he could place a fairly tight rubber band at the root of the penis and either inject a ring around it, just back of the corona (first freezing the skin, to insert the needle painlessly), with a weak solution of cocaine and adrenalin or quinine and urea hydrochloride, or, if he did not wish to do that, with the band to numb the part and ethyl chloride spray on the line of incision would save the child much pain. However, he did not seem to take seriously the child's helpless and pitiable screams, or my suggestions, either.

It seems to me that in this age of the world the assembling of ten male members of the Jewish church, often some of them mere boys, and the presence, as in this case, of women and children of tender years at such a performance as a circumcision of a babe after this fashion harks back to barbarism and can have no other than a hardening and brutalizing effect. You could go around this old world and you could not find a Christian mother that would stand for it, nor a father that would hold his eight-day-old babe for such an ordeal. But in the name of religion, successive millions of this race, without any choice of their own, submit to this treatment, because they are little babes and can't help it.

Is it not time to say to these people as one of their number said to them, "Circumcision is nothing;" still, if it must be done, pray, do it in a humane fashion? Give an anesthetic, always, and have it done by a physician, or else stop the practice wholesale. And I believe the Jewish members of our profession would welcome such a move.

J. WALKER.

Iola, Kan.

MOTHERHOOD

In the intervals between the suffering which she had endured since midnight, she again went over their dreams. They wanted a little girl—she would be so much company to them, and they would name her for both of their mothers. She could almost feel the little body in her arms as she rocked it to sleep. She even sang in her mind the songs she would croon to it. And she hoped that the nurse would get the right dress to put on it, the one she had made all with her own hands—the first one she ever had made. If anything should happen to her, there was the best little dress, all trimmed with lace and lovely ribbon, to put on it. And they had even talked of how it would learn to talk and to walk and to call them "mother" and "daddy." Ah, they soon would know whether their dream was to be fulfilled—or if—no, no, she wouldn't think of that!

The hours passed by, slow hours of torture. The pains had become so frequent and were so cruel that she no longer thought of those beautiful dreams; she only thought of how could she bear another such ordeal. The voices of the nurse and the physician seemed far, far away, and they did not seem to relate to herself at all. The perturbed husband by her bedside, his face pale, leaned over and whispered something to the physician. Then, "The doctor says that it will be just a few minutes more, dear, and that you are doing splendidly," he spoke encouragingly, as he bent down over her and stroked her

pallid cheeks. But she could only smile at him, for that dreadful, maddening pain had come on again.

She closed her eyes and, every nerve taut, she said to herself: "How can I stand it? Oh, I can not bear it. They told me not to catch my breath—I'll try to hold out a moment longer, but can I? If only I could relax." Then, "Oh! Oh! O my God!" she unwittingly cried out aloud. And then, harken—

"Ba-ah, ba-ah," weakly, faintly, breaking the stillness of the chamber.

"O! It's come," she whispered—and such a look of holy joy flitted over her face as it is permitted us to see but seldom in a life's time.

"And it's a fine boy, too," the doctor chortled, as he held up a little pink body and gave it a few smart slaps upon the back.

Not a shade of disappointment passed over her face. She smiled and closed her eyes. In a few minutes she again opened them and, glancing at her husband, who still sat by her bed and with his head resting on his hand, said, "I don't care a bit that it's a boy, do you?"

He, a big strong man, yet, his body shook with sobs and tears welled from his eyes when he raised his head. The strain had been too much for him.

"Why, dear," she said, "you shouldn't cry now, everything is all right, the baby is all right." But tears fell on her hand as he leaned over and reverently kissed it.

"You had better go and see how HE is," she murmured.

He soon returned to her, a smile all over his face: "Why, he weighs more than ten pounds and is kicking so that the nurse can hardly dress him." And again she smiled.

When , in a short while, all had been put to order and she lay there in the stillness while the blessed sleep of exhaustion crept over her, she wondered how it was she deserved such happiness. She forgot that she had suffered until every fiber of her body pained so that she scarce dared breathe, and felt so weak that it cost an effort merely to lift her hand. Wasn't everything all right? Wasn't the baby all right? And she smiled in the darkness.

HESTER MATHEWS PORTER.

Burney, Ind.

[This beautiful little cameo of the supreme drama of motherhood could, of course, only have been delineated by a woman, since it portrays the obverse side of the mystery, the side that is turned always inward and seen only by the woman, herself the central figure in the drama. This particular woman is is also the wife of a doctor, which capacity undoubtedly lends an additional keenness to her vision of the great universal miracle. Doctors' wives must be the repositories of a good many experiences and romances to which other women are strangers, and which, if they could and would give them utterance, would make interesting reading. We earnestly wish that the wives of our readers would get into the habit, as their husbands do, of making us, in turn, the repositories of their facts and fancies. We would like to hear from more doctors' wives.—ED.]

THE MEDICAL TREATMENT OF APPENDICITIS

The article under the above heading, by Doctor Vioran, in the March number of CLINICAL MEDICINE, provokes me to offer my own method in similar cases; although I will confess, I have had not more than eight or ten cases in the last eight years that I could confidently class as appendicitis, nevertheless, whenever I am called to care for such a one, my treatment, which has always resulted in recovery, without resort to operation, has been along lines here outlined.

First of all, give the patient an ordinary enema, to empty the lower bowel. After a free evacuation in the Trendelenburg position and have the patient lie with hips well elevated and then slowly introduce four to six pints of warm water containing some sodium sulphate or the sulphocarbolate, meanwhile manipulating the colon gently till the cecum is filled (taking plenty of time).

The results of this second flushing sometimes will surprise even the experienced doctor. All this takes from one-half to one hour. Then give, as may be indicated by the tongue, calomel, podophyllin, and sodium sulphate, in small doses every half hour (or such other laxatives as are needed) associated, possibly with aconite and hyoscyamus or their alkaloids (aconitine, hyoscyamine, atropine), as indicated, these to be followed by a saline laxative or castor oil, according to the condition of the patient.

In some cases where there is special tenderness, I use an application of libradol over the appendix, which gives marked beneficial results. The after treatment consists in the free use of the combined sulphocarbolates, together with aconite, hyoscyamus and belladonna (the alkaloids preferred); besides the high colonic flushing daily.

This is *not* a routine treatment for every case, but so far all my patients treated along this line have been able to go about their business at the end of a week or ten days, after the urgent instruction to continue the high flushing once or twice a week for some time, with the sulphocarbolates daily as needed.

C. A. FREEMAN.

Hobart, Okla.

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[We beg the kindly tolerance of our contributors and readers for the delay in printing some of the interesting comments on papers published some months ago. Fact is, our capacity is limited, and we have been compelled to ask some of our friends to wait. But, none the less, we ask everybody to write in freely and often about anything they may see in these pages. We'll use all we can, and as quickly as we can.—ED.]

THE NELSON AMENDMENTS: A CORRECTION

Upon May 1, we received a letter from Mr. Hugh Craig, editor of *The Journal of the N. A. R. D.*, calling attention to two errors which occurred in our April number, in our presentation of the facts relative to the Nelson amendments to the Harrison anti-narcotic bill.

The first error was a mistake in giving the date of the journal in which this appeared. It should have read March 26, instead of March 24, as printed.

The second error was the statement that a quotation we made from *The Journal of the N. A. R. D.* was from editorial matter, whereas, as a matter of fact, it occurred in the body of a letter written by a Wisconsin druggist to his congressman and sent by him to that journal for publication.

We immediately wrote Mr. Craig that the mistake in date was due to an error in transcribing, and that the mistake in the use of the word "editorial" had already been brought to our attention, also that we had corrected this error in our reprint, a copy of which we sent him. We expressed our regret at these errors, which we are glad to bring to the attention of our readers. However, we also called Mr. Craig's attention to the fact that his correspondent's letter (advising, among other things, the changes in the Harrison Bill and which later were embodied in the Nelson amendments) had editorial endorsement when printed in *The Journal of the N. A. R. D.* Furthermore, we assured him that nothing would please us more than to print in CLINICAL MEDICINE a statement from him that the N. A. R. D. not only did not originate but actually was opposed to the Nelson amendments, should this be the case. His reply to this letter is printed herewith:

I am glad to receive your letter of the 4th inst., together with the revised reprint, although I regret seeing in your latest issue some statements reproduced from other journals which doubtless were guided by your statement, intimating that the National Association of Retail Druggists through its journal or otherwise made the suggestion that resulted in the Nelson amendments. If you will turn to the issue of *The Journal* for April 9, on page 7, you will find an editorial which, although not in harmony with your views on the subject of regulating the distribution of narcotics by physicians, still does not favor the drastic regulation proposed in the Nelson amendment. The impracticability of the Nelson requirement is pointed out in that article but we pointed out none-the-less plainly that the arguments presented against the amendment are not based on fact, only their tenor is that the result of the amendment would be to prohibit the physician from giving to his patients narcotics.

The Association is desirous simply of having every distributor of narcotics placed on an equal basis with regard to the keeping of records without which the effect of the Harrison bill will be nullified.

Our reply to this letter of Mr. Craig's was as follows:

I am in receipt of your letter of May 7, which I have read with much interest. I am certainly glad to learn that the N. A. R. D. does not favor the drastic supervision of the physician proposed in the Nelson amendment.

I read your editorial on page 7 of *The Journal* for April 9 some time ago, and it did not seem to me then (nor does it now) that this disavowed the responsibility of your Association (or, at least, of its prominent officials) for this amendment. The very fact that Mr. Huhn, chairman of your Executive Committee, was instrumental in its introduction by Senator Nelson led us to believe, as I have no doubt it did a great many others, that this amendment had the approval of your organization. A letter written by Senator Nelson to one of our Minnesota correspondents, copy of which I enclose, certainly lends credence to that view, and the fact that certain pharmacists in Wisconsin, as well as those of Minnesota, urged such amendments (including the use of the word "administer") before the Senator introduced them would seem to show that this is something more than a local movement. I also know that a prominent official of the C. R. D. A. has stated that it was their purpose to press this proposed legislation.

However, I am very glad to have your statement and shall take pleasure in presenting it to the readers of our journal. We certainly have no fight with the N. A. R. D., many prominent members of which I am proud to count among my personal friends. I admire most of the work you are doing in the effort to better trade conditions. Whatever the authorship of the Nelson amendments, however, we are frankly opposed to them and certainly shall use what little influence we possess to prevent their acceptance. The Harrison Bill minus these amendments we heartily approve of, and we shall do all we can to secure its passage.

The letter written by Senator Nelson to a Minnesota physician, to which we referred in the preceding letter, is as follows:

DEAR DOCTOR:

Your letter of the 6th, relative to the bill, H. B. 6282 and the amendments I have introduced thereto, is at hand. I enclose you a copy of my amendments, so you will see just what they are. I offered these amendments at the request of Mr. C. H. Huhn, of Minneapolis, Secretary of the Minnesota Retail Druggists' Association, and a member of the Executive Committee of the National Retail Druggists' Association, so that the matter could be considered by the Senate when the bill is taken up for final action. I have no particular interest in the matter beyond seeing the bill perfected so as to accomplish what is desired, namely, the prevention of the excessive and unlawful use of drugs like morphine, heroin, cocaine, etc.

Yours truly,

KNUTE NELSON.

This is only one of a number of similar letters written by Senator Nelson that have been sent us by Minnesota physicians. Apparently it was understood by Senator Nelson that these amendments were handed him by Mr. Huhn acting in his official capacity, not only as a representative of the Minnesota druggists, but also as a representative of the N. A. R. D.

If *The Journal of the N. A. R. D.* had not, through its pages, so repeatedly made known its dislike for dispensing physicians, and if this body, through resolutions passed from year to year at its annual meetings, through the public addresses of its officers, and the activities of its attorney, had not manifested considerable anxiety to reach dispensing doctors and secure the passage of laws prohibiting dispensing, possibly we should be less inclined to question its motives with regard to legislation of the character involved in the Harrison Bill.

SUPPORT THE STEVENS BILL

We have received a communication from the proprietor of the Kiesel Pharmacy, of Lyle, Minnesota, asking us to do something for the general trade—which as he says "would include the drug trade." What our friend wants is the support of CLINICAL MEDICINE, and the physicians who read it, for a bill pending in Congress known as the Stevens bill (H. R. 13305). This bill is intended "to prevent discrimination in prices and to provide for publicity of prices to dealers and the public."

Without going into details (which we cannot do with fairness to ourselves or the bill for lack of time to study it carefully) we would say that its purpose is to aid the merchants of towns and small cities in their fight against predatory price-cutting, dishonest advertising, and other unfair practices of the great trading monopolies. It is particularly intended to establish the one-price-to-all principle on branded merchandise of all kinds.

This is not a druggist's bill any more than it is a grocer's or hardware dealer's bill. It is really a bill for the protection of all local business and in our opinion it deserves the support of every doctor who is interested in the welfare of his home town.

It gives us much pleasure to bring this matter to the attention of the readers of CLINICAL MEDICINE, and we hope that many of them will join with the merchants of the communities in which they live in bringing the right kind of pressure to bear upon their law-makers to secure the passage of this bill.

DO FOMITES CARRY DISEASE?

I have read with interest the article, by Dr. James E. Stubbs, on "Fallacies in Regard to Contagious Diseases" and find myself in accord with him in a large measure; nevertheless, I desire to cite one instance that will illustrate the exception to his dictum that "fomites will not carry the contagion of the diseases mentioned (rubeola, variola, varicella, scarlatina), any more than they would carry the virus of yellow-fever or of malarial fever." Without looking it up, I assume that the term "fomites" includes clothing, utensils, books, personal belongings, and other things handled by a patient sick with a contagious disease, or otherwise associated with him and his abode.

I have in mind the case of a little 6-year-old cousin of mine, whose parents moved with her from a neighboring city to a farm in this vicinity. About a year later this little girl was taken sick with a typical attack of scarlatina. This occurred at a time when, so far as I could discover, there was no case of scarlatina within miles of her, neither had she been off the place recently enough to have acquired the infection by contact. Also, there were no cases following hers in that vicinity; she was the beginning and end of the scarlatina in that locality for that particular season.

We studied and conjected over the source of the contagion for some time, until at last her mother happened to remember that the child had received a valentine—a lacy paper affair—from a little boy who had been her playmate in their former home. This the little girl cherished with childish affection and

played with it, as children will, for several days. And—this thing she had received at just about the required time before her scarlatina developed. It was further recalled that the boy had suffered an attack of scarlatina during the previous St. Valentine's season. We then examined the valentine in question, and it plainly showed signs of age and storage—was, in fact, one with which the boy had played when sick with the scarlatina and had been resurrected a year later and sent to the girl here. This conclusion later was verified by direct inquiry.

This occurrence proved to me quite conclusively that the contagion, at least, of scarlatina will linger in "fomites" (if a lace-paper valentine is a fomite) for a considerable length of time. While admitting that the child may have received the infection from some other source, I must say that there is not enough ground to base a good argument on.

I, for one, am convinced that we should continue to keep a watchful eye on our "fomites" for a while yet; although I also believe that quarantine should restrict only the sick and their actual attendants, letting the well go about their usual business, provided they do not enter the room occupied by the sick person.

I, myself, acquired scarlatina from a patient after I had begun to practice, and this experience almost made me in favor of abolishing quarantine entirely, so we could get these diseases early and have it over with before our time became really valuable to us; indeed, I find but few people who have not had these contagions, and do not almost regard them as inevitable. For all that, I obey the law and take all the precautions that any physician does, to limit the spread of such diseases.

E. A. FRENCH.

Plainview, Minn.

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[The question of fomites and their role in contagion was discussed at considerable length in the last Congress of Hygiene and Demography, which was held in Washington, D. C., being especially the subject of a very comprehensive article by Doctor Doty, of New York. According to Doctor Doty's report, a long and careful series of experiments and observations seemed to discredit the whole idea of communication of so-called contagious diseases by means of fomites. Clinically, however, the distinction between fomites-contagion and infection-carrying is not always feasible, because as yet so little is known of the infectious morbidity of the contagious diseases. In the case cited, for example, the postal card, may not have been a fomite, in the accepted sense of the term, yet it may have conveyed the infection in a way and under conditions not at present clear to us.—ED.]

EMETINE IN TYPHOID FEVER

The ravages of typhoid fever are constantly being narrowed down, and this because of the introduction of the typhobacterin, together with a rational common-sense treatment in general. But, still, we have to deal with it occasionally in its old-time severe form; that is to say, in which the all-dreaded hemorrhage becomes a factor. Now, however, the more I reflect upon it, the more I become convinced that emetine is the only safe, sane, reliable remedy indicated for combating this alarming complication. And here is an illustration.

The patient, a man, although unwell, with a moderate infection, did not realize the fact and had worked throughout the first week of the attack. But one morning he had three severe hemorrhages, when I received a hurry-call.

On reaching the patient, I dissolved six 1-64 emetine tablets in my syringe and injected it. I also injected atropine and morphine. In addition, I left a supply of the emetine tablets, one to be given at hourly intervals. The next morning he experienced a slight hemorrhage, no more after that. The emetine was kept up till the danger-period was passed.

I have made up my mind to use emetine routinely in every case of typhoid fever, beginning about the second week. What do you think about it?

A. M. MCCUISTON.

Atlantic, N. C.

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[The value of emetine hydrochloride in the treatment of hemorrhage is now well established. Others beside Doctor McCuiston have reported good results from its use in this complication of typhoid fever. It will not always succeed—no remedy will do that—but it has given very satisfactory results and promises to take first rank as an anti-hemorrhagic.

I hardly think I should use emetine as a routine remedy in typhoid fever, for the purpose of preventing hemorrhage from the bowel—but "I am from Missouri." Let's have clinical evidence. However, I have found that when the bowels are given a thorough initial cleaning out, are kept clean by proper measures throughout the disease, and

fermentation prescribed by the persistent use of sulphocarbolates in dose enough, this complication practically never occurs.—ED.]

A PRESCRIPTION FOR TONSILLITIS

Dr. E. H. Sholl, of Birmingham, Alabama, kindly sends us a prescription for use in cases of tonsillitis; being led to do so by reading Doctor Canan's article on this subject printed in the April issue.

Doctor Sholl informs us that he has been actively engaged in practice for more than fifty years and that the mixture he has been employing in tonsillitis certainly has stood the test of time. He believes that a rheumatic diathesis usually is responsible for recurrent attacks of tonsillitis and that this may explain the efficacy of the combination. His formula is as follows: Potassium chlorate, powder, grs. 60; spirit of nitrous ether, drs. 4; tincture of guaiac (9 percent), ozs. 2.

Take one teaspoonful, without water, every hour for three doses, then every three hours till relieved. (Shake well.) Follow each dose by a drink of water.

PHYSICIANS WANTED

We have just received from a druggist in a live little Wisconsin town a request for a Norwegian physician to take the place of a doctor who has just died. The druggist writes that the doctor "must be a Norwegian or else be able to speak the language, and he must have had experience."

Any physician who can fill these requirements is respectfully invited to communicate with us. We will put him in touch with the proper person.

We also have a call for a young physician to go to New Mexico to associate himself with an older man whose work is too hard for him to handle alone.

SOME THERAPEUTIC SUGGESTIONS

Permit me to offer a few practical suggestions, based upon personal experience.

Give sodium or strontium salicylate to abort pneumonia. When the patient is seen early, I prescribe 5 grains of the drug every three or four hours for adults, in connection with treatment indicated for the first twenty-four hours. Very often at the end of this time congestion is relieved, no true solidification taking place.

A rigid os uteri often can be relieved by the hypodermic injection of 1-4 to 1-3 grain of emetine hydrochloride.

Rhus poisoning can be cured as if by magic with fluid extract of grindelia robusta, using 1 part in 8 of water locally. A few applications do the "biz."

I got instant results, this past fall, in the case of four or five babies, who were having bloody mucous discharges and great tenesmus, and who had been getting worse on the ordinary treatment, by giving them 1-64-grain granules of emetine hydrochloride every two hours by mouth. The blood and mucus stopped at once.

Pituitrin, hypodermically, has saved me plugging the nose to stop bleeding. Pituitrin has also appeared to give me good results in two cases of puerperal convulsions.

J. S. CARRIGER.

Chelsea, Okla.

BACTERIN THERAPY

Bacterin therapy is an addition to our curative armamentarium that is absolutely scientific and applicable to many conditions not amenable to other methods; or, as an accessory, it has few equals. It has had its blows just as many other of our therapeutic agents have had in the past; but the fault has not been with the method so much as with the user. Every new therapeutic measure has been tried in conditions entirely out of its sphere; examples of which we see in massage, electricity, and the various forms of mechanotherapy.

The essential fact in bacterin therapy is to ascertain positively the etiological bacteria—those causing the morbid process—and then to use the indicated bacterin; but, when we stab blindly, we are not "playing a square game," and the fault then is not with the method but with the man.

The autogenous bacterin, of course, is to be preferred; but, when it is possible to ascertain the dominant type of bacteria present, the stock bacterin can be used either only temporarily, or until a cure is effected in cases where satisfactory results are being obtained.

Two cases from practice will be cited.

A woman patient had been afflicted with chronic bronchitis for twenty years. She expectorated large quantities of mucopurulent sputum of a very offensive odor. Repeated analyses of the sputum showed an absence of tubercle bacilli, but the presence of a varied flora of other bacteria. Finally a specimen was sent to The Abbott Alkaloidal

Company, whose bacteriologist isolated the bacteria present and then prepared an autogenous bacterin in ampules. The patient received a dose every four days, and after the third dose she began to show material change in her condition by rapid improvement. The character of the sputum changed, the cough was less severe, and her general health became better than had been for many years.

The other case is that of a boy 13 years of age who had asthmatic attacks for six years standing, due to chronic bronchitis. The bronchorrhea was unusually copious, causing constant and intolerable coughing and expectorating. He had been the "rounds" medically, but without any abating of the trouble. I had an autogenous vaccine made from the sputum, and the boy received twenty-four doses. The results were remarkable; the frequent asthmatic attacks, which were a nightly affair, ceased and the bronchorrhea vanished entirely. The result here could not be an accident, and it only is given as an example of what we may expect from bacterin therapy in many other cases.

Bacterin therapy is here to stay, but it must be employed wisely and for a definite reason.

Altoona, Pa. CHAS. W. DELANEY.

IS DIPHTHERIA REALLY CONTAGIOUS?

Apropos of Dr. J. E. Stubbs's article in this journal, entitled "Some Fallacies in Regard to Contagious Diseases," corroborating what he shows to be facts of observation, I wish to relate an experience in my own practice.

When, a few years ago, I happened to stop over Sunday in the town of Oroville, Washington, two lads went out hunting. They laid a shotgun upon a sloping rock and proceeded to pick berries. The gun slipped, was discharged, and both of them were hit, the one having a hand severed at the wrist, the other having the triceps muscle of one arm severed down to the bone.

The local physician being absent, I was called in aid. I had them taken to the doctor's office and performed the necessary operations, the druggist giving the anesthetic. During the operations the office was crowded with sightseers. After completing the operations, I incidentally learned that one of the boys had been sick about a week with what the local doctor diagnosed as tonsillitis, and he was barely able to go hunting that day.

The next day I went on to my farm, but returned to Oroville four days later, and accompanied the doctor to see the two boys. Both were doing well, but, to my horror, I found that the brothers and sisters of the one who had had "tonsillitis" were down with a most malignant form of diphtheria; that one child had died during my absence of four days, a second one was nearing the dark vale, while, I might add, a third one died a few days later.

When I realized that this boy with the "tonsillitis" had been under an anesthesia-mask for about an hour and that then the same mask was used on the other boy, with dozens of people standing around all the while, I confidently expected an epidemic of diphtheria to break out; for there was not the slightest doubt that the "tonsillitis" boy was just recovering from diphtheria at the time of the accident. However, to my great surprise, and still greater relief, not a single case developed outside of this boy's own family.

Since that time I have had my doubts about the contagiousness of diseases from simple contact, without some other source of infection.

T. F. PARKER.

Marcus, Wash.

[We feel obliged to remind our contributor that one swallow does not make a summer. We have heard, and no doubt Doctor Parker has had experience, of cases of typhoid fever in which the patient, being convalescent, has surreptitiously regaled himself upon spare-ribs and sauerkraut, apparently wihout any injury to himself or any interruption to his recovery. But we presume that our contributor would hardly record this as an indication for spare-ribs and sauerkraut in typhoid fever. We should hesitate very much, upon the instance here cited, to entertain a general conclusion that diphtheria is incommunicable, far less to make a practice of using the same mask upon diphtheritic and healthy patients.—ED.]

APPENDICITIS: ANOTHER COMMENT

I have read Doctor Vioran's article, in the March issue of THE AMERICAN JOURNAL OF CLINICAL MEDICINE, on "The Medical Treatment of Appendicitis" and wish to record my comment on his system.

I have treated successfully a number of such cases with the starvation and elimination method. First, I give calomel, ipecac, and soda in small doses, repeated up to a total of 10 or 15 tablets, and combining with small doses of hyoscyamine if there is any pain,

An injection of epsom salt is given after the calomel tablets have been taken. As soon as the bowels are empty, I give sodium sulphocarbolate freely, and then apply over the abdomen hot lard well medicated with oil of turpentine.

Some prefer applications of ice; but I like the heat better, as a rule, although in strong, robust patients, with a sthenic form of the disease, ice works well. In the nonsuppurative cases, this treatment works wonderfully well. No food by mouth is given for several days, and then a very bland liquid food for as many more.

But always look out for perforations. I have been caught twice by the symptoms, all subsiding and the patient seemingly out of danger, when perforation took place and the patients died. One of these perforations was caused by an enterolith, without any pus forming, and the other by a gangrenous spot in the appendix. One was operated upon, but too late, while the other's parents refused to permit an operation. But a postmortem on the enterolith case demonstrated the condition as stated.

Echinacea and calcium sulphide should always be given whenever the temperature runs up and down rapidly (even when not high) and the pulse is higher than in normal ratio with the temperature. A high pulse that is small and wiry, with a temperature 99° to 101° F. is a sure indication of a sepsis and danger.

Always be ready to operate at a moment's notice when treating appendicitis medicinally.

THOMAS W. MUSGROVE.

Sultan, Wash.

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[Appendicitis is treacherous. While we agree with Doctor Musgrove that most of these cases will get well under medical treatment, there is a devilish tendency on the part of the disease to recur. Hence, have a surgeon handy!—ED.]

MERCURIC CHLORIDE REMOVES LICE AND KILLS THE NITS

In the January number of CLINICAL MEDICINE I find an editorial comment on some published articles on how to get rid of that school-pest, the head-louse, and the idea I got from that comment was that those written felt almost hopeless in regard to getting rid of the nits. Now my personal experience has not been very extended, however, I do not know ever having failed, either in dog or child, in this respect when my instructions were correctly carried out.

I simply thoroughly soak the hair and scalp with an aqueous 1 : 1000 mercuric-chloride solution, and then, in the case of a human, order that it be combed as little as possible (to meet toilet requirements) and not brushed to all for several days, so that the chemical may not be removed. The idea is that as fast as the nits hatch out the young lice get a dose of bichloride and die before they can deposit fresh nits.

C. HERBERT CHURCH.

Newark, N. J.

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[Corrosive sublimate is a dangerous thing to have around—even though every dame and damsel in these enlightened times seems to carry the tabs in her porte-toilette—and it is the lousy families who are the most careless. All considered, it does seem advisable that the doctor himself make the application, and then stipulate that the subject wear, day and night, a hood or else a bandage applied by him *lege artis*. Besides, he may, legitimately charge for this service.—ED.]

VOMITING RELIEVED BY ANODYNE FOR INFANTS

I have gleaned very many helpful things from CLINICAL MEDICINE, but I want to tell you only of one of the numerous valuable hints I found in the April number.

I had been attending a young woman for four weeks, who could not move her head on her pillow without vomiting bile; she vomited from two to six times daily, and was exceedingly sick all that time. Although she passed large amount of bile in her stools, she received no relief from her sickness. I had tried everything I knew of to quiet her stomach, so that she could retain a little nourishment, but had utterly failed and my patient was getting weaker every day. Then I noticed in the April number an account of Dr. Shane (of Steubenville, Ohio) having stopped vomiting with anodyne for infants. I confess I did not have much faith in this remedy so far as my patient was concerned, but having some knowledge of Doctor Shane I concluded to try the little granules.

On April 15, I found my patient deadly sick and vomiting bile (with a red and dry tongue). I ordered two anydone for infants granules to be given every two hours. April 16, I found she had not vomited since I had given her the first dose. She still was sick, but not so bad. April 17: no vomiting,

slightly sick, tongue beginning to moisten; had taken a little weak chicken-broth and retained it. April 20: no sickness, has not vomited since the first dose of the granules, has a desire for food; while weak, is improving nicely—thanks to the wonderful, but all-powerful anodyne for infants.

W. V. RIDDILE.

Burgettstown, Pa.

[The article by Doctor Shane, to which Doctor Riddile refers, was published in *Helpful Hints for the Busy Doctor*. It was extremely interesting.—ED.]

THE OPHTHALMO-AXONOMETER

Simple and comparatively meager as are the requirements of eye refraction, especially of the subjective chart-test, yet there are some conditions connected with it which make it rather discommodious for the general practitioner. For one thing, it necessitates a sheer uninterrupted line of vision between the patient and the wall-chart of 20 feet; or, if this cannot be obtained, then there must be a system of mirror reflection to take the place of the actual distance. Again, it is essential that the light fall brightly and evenly upon the chart; and if (as is frequently the case) the windows of the room are not conveniently arranged for this, then there must be some system of artificial lighting to fulfil the required conditions. And, finally, the procedure itself, the continual changing of lenses to and from the trial case and the trial frame is a cumbersome, annoying affair, exasperating to both the operator and the patient.

All of this difficulty and inconvenience is done away with, and the subjective test made very simple and easy, and at the same time just as scientific, by an excellent little instrument recently put on the market by the Standard Optical Company of Waupaca, Wisconsin, known as the Ophthalmo-Axonometer. Its two-fold principle is the scaling down of the chart to a range of a few feet, still preserving the parallelism of the rays and the minimum visual angle, and the substitution of the focal length of the lens for the lens itself.

A cut of this instrument will be found on page 22 of the advertising department. A plus 8 lens at the telescope makes infinity at 12.5 cm., noted as zero on the slide-bar. A revolving chart is accurately scaled to conform to Snellen's visual angle at this distance. The slide-bar is graduated in focal distances, so that by sliding the chart forward or backward, in accordance with these gradations, plus or minus correction is obtained of the dioptric strength indicated. By this device, the cumbersome changing of lenses is avoided; the scaling down of the distance makes the difference between clear and obscure vision very marked and prevents confusion; results register themselves automatically on the graduated slide-bar; and the whole instrument is, in fact, a trial case and wall-chart condensed within a small, handleable compass, and can be moved and placed wherever the light is favorable.

It really is the most scientifically simple device for refraction that the writer has ever seen, and reduces the art to the acme of simplicity and easiness. Now, more than ever, there is no excuse for the general practitioner failing to do his own refraction work. Any physician can learn to operate it in five or ten minutes; yet the writer absolutely vouches for its scientific accuracy. One can hardly make a mistake with it. It is especially rapid and effective in the case of children and neurotic adults, with whom the old trial case method is a source of despair. We earnestly recommend our readers to at least get the literature of this instrument, and become acquainted with it. They will make no mistake if they order the instrument itself forthwith.

THOMAS G. ATKINSON.

Chicago, Ill.

AS TO IPECAC AND STAPHISAGRIA

Lately I have seen in this journal articles about emetine being used in dysentery. That leads me to say that ipecacuanha is a far more valuable remedy than some think it is. I have used it in very small doses to quiet vomiting; adding of the "specific tincture" of ipecac 3 or 4 drops to a glass of water and giving of this a teaspoonful every half hour. It also gives good results in passive hemorrhages. Also, it is a fine expectorant.

For forty years I have been employing ipecac powder in dysentery, and always obtained good results. The late Dr. L. P. Yandell, Jr. was professor of materia medica in the University of Louisville forty-odd years ago, when I was a student at that school, and he taught us to prescribe ipecac in large doses—10 to 15 grains at a dose—in dysentery. The ipecac was made into a pill. The patient was not to drink any water for two hours before taking the pill, use as little water as possible in washing it down, and not to

drink anything for at least two or three hours after. The patient was to lie down.

Often this one pill will be the only dose needed for a cure, if the patient is seen early in the attack. Now I put the drug in capsules. However, I have also administered the ipecac in the form of rectal suppositories in treating this trouble. Ipecac always is the first thing I think of.

In the March number there appears an article on staphisagria. I will say that I have been prescribing this remedy for a number of years and like it very much. I use only the "specific tincture." This certainly is a fine remedy in certain nervous conditions, when the patient looks on the dark side of everything, having fear of impending danger. The dose is from 1-10 to 3 drops of the "specific." For example:

Sp. tr. of staphisagria.....gtt. 5 to 10
Water.....ozs. 4

Label: 1 dram every three or four hours.

Some years ago one of my patients had an intolerable itching of his legs and said his feet felt hot, and at night he would put them out from under the cover. I could not see any eruption or anything wrong with his legs or feet. On a venture, I gave him the following lotion, and it cured him of his trouble:

Sp. tr. of staphisagria.....dr. 1
Water, to make.....ozs. 4

Label: For external use only.

Shake well and apply with a sponge to the legs and feet three times a day.

JOHN E. L. HARBOLD.

La Grange, Ky.

—

[Ipecac has been used in the treatment of dysentery for many years, and its value in tropical forms of the disease is unquestioned. But it often failed because it was impossible to get enough into the patient to control the disease without producing simply unendurable nausea and vomiting. Then it varied greatly in strength; one batch might be good, the next batch worthless. Emetine has replaced it because it causes little or no nausea, even when used in large doses (a grain of emetine equals 60 grains of ipecac), and because it can always be depended upon to give results. Now that emetine hydrochloride is available physicians practicing in tropical climates would no more think of giving ipecac to cure dysentery than they would attempt to give powdered cinchona bark to cure malaria.

Doctor Harbold's experience with staphisagria is most interesting. This remedy has practically gone out of use except as a local application to the scalp to kill headlice. Like other neglected vegetable remedies we have no doubt that it has virtues as yet unrecognized.—ED.]

NOT FRAMBESIA, BUT LEPROSY

Having practiced medicine for more than eight years in the Samoan, or Navigator, Islands, where yaws (frambesia) is prevalent and leprosy is not a rarity, I feel myself fairly competent to pass judgment upon the case of skin disease discussed and illustrated recently in these columns (Jan., p. 90, and Mar., p. 273), and without requiring anything more than you have given as a guide.

Dr. Campbell's case of leprosy

This is unmistakably a case of leprosy. It has the general appearance of a number of cases I have had the privilege of observing. It does not appear like any of the cases of yaws I have seen, and they were many. While yaws may run a course of months or a year, as a rule it terminates in from six weeks to three months; depending upon the patient's general health and idiosyncrasy, the hygienic conditions, and treatment employed. Among the Samoans, I think, it was exceptional for the disease to last longer than three months.

The appearance of the eruption in the photograph is not that of yaws. At first a

yaw ("raspberry") usually is a furfuraceous patch, which after a few days becomes a papule. These papules seem to be pushed from the rete Malpighii up through the horny epidermis, which breaks over their apexes and splits in lines radiating from the center, the necrotic segments curling away from the enlarging papule. When the papules become about a millimeter in height and breadth, a yellow point may be observed in the center, which is found, not to be a drop of pus, but a naked, caseous-looking substance that can not be wiped away without much and undue force and leaving a bleeding surface. The papule may cease to grow at this stage of development or it may continue increasing in size to the formation of the typical yaw. The typical yaw may vary in size from a split pea to that of a 25-cent piece or even larger. Generally it is a rounded excrescence, with the top of the little tumor completely capped by the yellow caseous matter above referred to.

From the appearance of the photograph in question, I should judge that the eruption was nodular. If I am correct in my deductions, then this affection could not have been yaws, for it would have had the characteristic yellowish, caseous centers in some of these eruptions long before Doctor Campbell saw the girl, if she had had the malady for as long as a year.

F. E. BRAUCHT.

Coleridge, Neb.

[We print the picture again, to make Doctor Braucht's points clear. The case seemed to us to be one of leprosy, but full data are still lacking.—ED.]

DEATH CLAIMS TWO FRIENDS

Just as we go to press—too late, in fact, to insert this brief notice in our editorial pages—reports come to us of the death of two distinguished men and good friends of this journal.

Readers of CLINICAL MEDICINE, especially those who have been on its list many years, will join us in mourning the death of Horatio S. Brewer, of this city, who has frequently contributed experiences of great interest and more than ordinary value to its pages.

Doctor Brewer's special work for the past decade has been in epilepsy and allied conditions, which he was able to handle, in most instances, and in ways known only to himself, with surprising success. It is unfortunate that, so far as we know, he left no records for the profession.

Then from far-away Texas comes news of the death of Dr. F. E. Daniel, of "Red-Back" fame, who fell asleep at his home in Austin, May 14. We knew that Dr. Daniel had been ill for some months, but hardly expected to hear of his death so soon. Thus passes one of the most brilliant writers of the South —indeed, of American medical journalism.

HOW I TREAT UMBILICAL HERNIA IN INFANTS

Umbilical hernia in very young children is not a rare condition, by any means, and there is so much importance attached to this condition, as to the future welfare of the child, that I wonder why more attention has not been paid to this subject. The theory that "the child will outgrow" this trouble is farcical.

Whenever there is a typical tumor which becomes tense and large at every cry of the child, it is out of the question to assume that this condition will get well by itself. I have seen more than one case ready for the surgeon, neglected when they could have been remedied easily at first, that made me feel that some medical attendant had fallen far short of doing his duty to his little patient.

The following is my plan for treating this condition. I have not yet failed to relieve a single case in children under three years of age. It is much easier to treat a patient under two years, since the parts are more likely to adhere than where the tissues are more developed.

First of all, I clean the whole abdominal wall with soda and soap-water. After drying thoroughly, I dust the skin around the navel with equal parts of talcum powder (I prefer Mennen's toilet talcum) and compound stearate of zinc powder. I take a small quantity of clean absorbent cotton and put some of the powder over the cotton, roll the cotton into a tight wad, place the cotton roll immediately over the tumor, reducing the tumor, then grasp a fold of skin on either side of the tumor, anchor the strips well around from side to side, finally covering the tumor well by going over it with adhesive strips several times until I am certain that the parts will hold the "crease" good and tight.

I allow these strips to remain intact for two or three weeks. Sometimes the mother will tell you the strips are on too tight, but you can rest assured that no damage will be done the child from pressure. I remove the strips when they show signs of loosening and then reapply them.

The child should be kept perfectly quiet while the strips are being applied, as the tumor is forced out again at every effort of the child to cry. Usually I have the mother nurse the child or amuse it in some way until I can fasten the strips. I allow the second strapping to remain on about two or three weeks. Upon removing the strips the second time, I have always found the tumor gone. Then I direct a tight-fitting band worn for six weeks, to give further support to the parts.

Will some reader of the "family" who has tried this method let us hear from him. I hope this little sketch will be of some service to some brother who has had the same unsatisfactory experience that I have had with the "button" or "lead-bullet" plan of treating these cases.

JOSEPH W. GREGORY.

Cisco, Tex.

EMETINE IN AMEBEC DYSENTERY

Within the last four months I have had occasion to treat six dysentery patients with emetine hydrochloride, and I can report only gratifying results.

Two of these were hospital-cases; that is, they were patients in the Chakdighi Charitable Dispensary, where dysentery-cases are numerous. The other four were in private practice, all chronic in type, and these persons had been sick for two or three months. They were passing from twenty to thirty mucopurulent, bloody stools, looking like "intestinal scrapings," as it were; tenesmus and borborygmi were present and there was dull pain all over the abdomen.

My course of treatment is as follows: Inject emetine hydrochloride, 1-2 grain hypodermically. Give a mixture of castor-oil (1 ounce) in six doses, one dose to be taken hourly to effect. Give calcium sulphide, twelve granules, and the following: Emetine hydrochoride (gr. 1-64) granules 3; echinacea, granules 1 or 2; strychnine arsenate granule 1-2 to 1; hydrastine, granule 1. Dispense 8 such doses, giving one dose every two hours.

Next day I find the patient better. He has passed a large amount of fetid stools; there is no gurgling; tenesmus less than before; blood still present; stools reduced to ten or twelve in number.

A second injection of 1 or 2 grains of emetine hydrochloride is given, as the people generally are poor and cannot afford to call me twice a day; and neither does the distance allow me to visit the patient twice. I have to depend on other medicine to be taken by mouth, and I have found it to play its parts satisfactorily.

On the third day the stools reduced to three or four in number; no griping; no gurgling; no blood in the stools; a tint of bile has become visible in the feces.

No more visits are wanted, as the folk think they are safe; but the combination of emetine, echinacea, strychnine and hydrastine is continued for four or five days, and calcium sulphide, 20 granules in a day. Some patients say: "Your gray granules, though abominable to take, relieve the bowels much and make the actions easy—allaying the tenesmus."

Thus I use 1 1-2 grains of emetine hypodermically, and in one case only 1 grain; besides, about 3 or 4 grains of emetine by the month, usually along with echinacea and calcium sulphide, the latter acting as a systemic antiseptic, checking the fever, and helping in effecting a rapid cure. Relapses have not occurred thus far.

As for my two hospital cases, I had a fair chance of injecting the emetine hydrochloride. One of these required 4 grains, and the other, 4 1-3 grains, for a cure. They were discharged after fifteen and eighteen days, respectively.

In the preemetine days I treated 127 cases with ipecac—15 grains, three doses daily. After a preliminary dose of opium or chloral, they can well bear the dose without emesis; indicating how nature tries to get the beneficial effect of the drug by exhibiting a peculiar tolerance in these cases. Ipecac promotes the flow of bile and stimulates healthy intestinal secretions.

That a peculiar tolerance for ipecac is established in amebic dysentery, can be understood, if one observes that these patients generally do not vomit, even when 10 or 15 grains of powdered ipecac is given in divided doses without a preliminary opium dose; whereas 1-2 grain suffices in health to cause nausea; and, furthermore, that those in whom nausea and vomiting is present recover soon. This proves that the Almighty Savior has created the drug for that fell disease.

N. CHATTERJEE.

Chakdighi, Dt. Burdwan, India.

THE AMERICAN MEDICAL EDITORS' ASSOCIATION

On June 22, the above-mentioned association will meet at the Marlborough-Blenheim Hotel, Atlantic City, N. J., under the presi-

dency of Dr. E. A. VanderVeer of Albany, N. Y. An unusually attractive program is being prepared. Among the papers are the following:

President's address: E. A. VanderVeer, M. D., Albany, N. Y.

"Relation of the Medical Press to the Cancer Problem," by Mr. Fred'k C. Hoffman, statistician of the Prudential Insurance Company. (By invitation).

"The Preparation of the Original Article and the Editor's Latitude," by E. Franklin Smith, M. D., Brooklyn, New York.

"The Ideal National Medical Journal: What it Should Be and What It Should Not Be," by W. J. Robinson, M. D., New York.

"Two Problems of the Organization Journal: The Mediocre Paper and the Editorial Department," by Sarah M. Hobson, M. D., Chicago, Ill.

"Medical Journalism as a Local and as a National Proposition," by Thomas S. Blair, M. D., Harrisburg, Pa.

"Medical Books and Journals," by T. D. Crothers, M. D., Hartford, Conn.

"The Medical Periodical and The Scientific Society, by F. H. Garrison, M. D., Washington, D. C.

"Editorial Experiences," by A. L. Benedict, M. D., Buffalo, N. Y.

"The Special Medical Journal," by A. Bassler, M. D., New York.

"The Medical Profession and Its Influence from a Buying Standpoint," by Joseph MacDonald, Jr., M. D., New York.

AMERICAN MEDICAL ASSOCIATION MEETING

This year the American Medical Association meets at Atlantic City, June 22–26. The CLINICAL MEDICINE "bunch" will go by way of the Pennsylvania, and shall be glad to have any of you join us. Let us know what you want and when you want it and we shall be glad to make any necessary arrangements for you in advance, or if you prefer, you can write to Mr. C. D. Elliott, General Passenger Agent, of the Pennsylvania Railroad, Chicago.

HOMEOPATHY: WHAT IT REALLY IS

In your May number, C. N. Miller breaks out in a wonderful demonstration of what the 30th dilution of a homeopathic remedy really *is not*. The Doctor evidently has not grasped the homeopathic idea as yet, for he appears to think it is the size of the dose that determines it, when this has nothing whatever to do with the homeopathic law of cure.

Hahneman tells us that remedies are not "diluted," but "attenuated" or dynamicized; that is to say, by the process of succussion each dilution as it is made, the dynamic force of the drug is liberated, and that without the rapid and thorough succussion (shaking) of the solution the mere process of diluting does not operate to develop, or liberate the dynamic or curative, action of the remedy.

Take, for instance, the well-known drug belladonna. Physicians of the regular school prescribe it largely for its anodyne excitomotor action and its ability to control secretions and antispasmodic effects. Now, these conditions are controlled by the physiological action of belladonna, and the Homeopath prescribes this remedy in small doses to relieve symptoms which correspond to the picture produced by belladonna in a poisonous dose—that is, violent cerebral congestion, with or without delirium, in acute inflammations of an active type (like the Sydenham type of scarlet-fever). But these symptoms must be from causes other than the presence of this drug or its correlatives hyoscyamus, stramonium, and so on. The dose given for relief must be too minute to produce physiological effects.

I will put before the doctor a mathematical problem in low attenuations in Homeopathic law relative to dosage.

Take a piece of charcoal one inch cube. If you were to place this lump in the stomach, you would have six square inches of surface exposed to the action of the gastric juices. Now divide this cube into three plaques 1-3 inch thick, and you would have 68 square inches of surface—and this would represent the 4x trituration. Now, Doctor, wouldn't you get as much result from each of the three of these thin plaques as you would from the 1-inch cube. Further, if you triturate this charcoal with sugar of milk, you not only have its absorptive effects on the gases of the stomach, but you develop a dynamic effect that removes the systemic causes of digestive and intestinal putrefaction, with the whole train of symptoms that goes with it.

Once more, Doctor, use your common sense and look about you. If there were nothing in the Homeopathic law of cure, could it have thrived and grown and today have 50,000 physicians and half a milliion adherents, with state universities teaching its truths,hospitals, societies, county, state and national? Get a copy of the "Organon," Doctor, and study it. It will do you good.

W. N. FOWLER.

Kalamazoo, Mich.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

I HAVE just received an unsigned letter reproaching me for quoting from the writings of the late Dr. I. N. Love, of St. Louis and New York, without giving him credit. My anonymous correspondent writes me that a portion of my article on hysteria, in the May number of this journal, was taken from an address delivered by Doctor Love at a banquet of druggists some years ago.

The portion referred to is probably the first part down to the short black line near the foot of the first column. Someone else also quoted from Doctor Love, for I took this portion in its entirety from an unsigned newspaper or magazine clipping which I had pasted in my scrapbook some years ago. For years I have been in the habit of collecting both prose and poetry that appeal to me, from newspapers, magazines, and other sources and pasting them under appropriate headings in a scrapbook.

This matter referred to, my correspondent writes me, should be credited to my old friend I. N. Love. This I most cheerfully do, and I wish my correspondent would send me a copy of this address of Doctor Love's, if he has one, that I may reproduce it in its entirety; for it would be worth reading, as was everything Love ever wrote. In this connection, I would suggest to my unknown correspondent that, if he has the full series of *The Medical Mirror* when it was edited by Doctor Love, to arrange with some publisher to reproduce his editorials and literary essays; they would sell and be highly appreciated by the present generation. I have but one number of *The Medical Mirror* that for September, 1899, from which I quote further down some of Love's stuff. Otherwise, I have but one other article of Love's, and that is, "The Rights of Old Age." This I hope to republish in these columns some time.

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My correspondent intimates that I am fond of quoting from Doctor Love's writings. I am, and I presume I have used many of his ideas, if not his exact words. His style was remarkable; he was epigrammatic. I have used one expression many times, and I have seen it in the writings of others, and always without the "pestiferous quotation mark." The first time I ever heard the phrase was in a little "round-table talk," when Love used it, and it was this: "Eat less, and play more; indulge in less fret and fume, and in more fruit and fun." And we certainly were indulging at that time in some "fun" and some "fruit of the vine." I have used on stag occasions a certain toast—and have heard it used by others—that I first heard from the lips of Doctor Love. Both of these probably were original with him.

No man who ever was intimately acquainted with Doctor Love or who was familiar with his writings could help being impressed with his personality and saturated with his thought. I am sure that no physician whom I ever have known has impressed himself so indelibly upon the hearts and minds of his confreres as has Love.

I know that I have quoted from Love, as many others have, and as he himself paraphrased or quoted good stuff that appealed to him. He and Elbert Hubbard were much alike in this respect. They could put the "punch" into Shakespeare even, or into any of the classics, and make one forget the original writer. But Love not only could put the punch into another man's stuff, but he was peculiarly original, and it is no wonder that what Love wrote and said is being remembered and quoted.

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Emerson ranks as the quoter of good things next to the originator of them. After all, who among us is wholly original? Doubtless many readers of this department often have recognized some rare gems, such as those from Love, George Thos. Palmer, Thomas G. Atkinson, William J. Robinson, G. Frank Lydston, E. S. Goodhue, A. S. Burdick, George M. Gould, and the many others, good doctors all, who, as old friends, have flashed back smiles of recognition.

Dr. I. N. Love was one of my best friends, and I am delighted to know that my anonymous correspondent was his friend also and is so loyal to his memory. I hope that he will give me his name and address and that we may meet and pay tribute to the memory of our old friend Love.

And to you readers of this department I will say now, that, if you have ever read anything here that has soothed, strengthened or inspired you; flashes of sentiment, humor or philosophy that have pleased you; give the credit to those whose writings have influenced my thought and molded my style; and to no one man in my own profession am I more indebted than to my old friend Dr. I. N. Love.

I hope that my anonymous correspondent will read this, and, whoever he be, I thank him for writing me. His loyalty to his friend shames me; for I, too, was his friend, and I shall make it a point to resurrect some of the brilliant things written by Love, and reproduce them with comments.

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I should be pleased if any of my readers would send me anything of Love's; any anecdotes, bits of history or personal experiences; for nothing would please his friends better than for someone to reproduce some of his stuff that was so deservedly popular in the days gone by, to pay tribute to the memory of such a rare and genial personality.

It wouldn't be a bad idea to make a few "little journeys" to the homes of such men as Love, who have passed on, reproducing some of their best writings and telling the present generation of their work and something of them as men, as well as doctors. Let us start with Dr. Isaac Newton Love.

Love was not only a great physician and teacher, but a genial, kind-hearted philosopher. He had his troubles, as we all have, and more than he deserved; but, when the clouds were thickest, when envious competitors slandered him, instead of getting bitter and misanthropic, he would write something in the strain like that which follows, and to which I have referred above; and he would feel better after having done so—and so would every one who read his stuff. When you are inclined to give up and quit, and to cry out, "What's the use?" read this of Love's:

—

"What's the use? Time was when no manly man could afford to brook an insult. If prompt resentment did not follow, he was prompt to receive the evidence of the contempt of his fellows.

Fortunately the education and moral development of our people has resulted in the growth of a healthy sentiment, which has crystallized into law that is almost universal against the cruel relic of barbarism, the code duello.

There can be no question that in communities where the code duello obtains men, knowing that they will be held to a strict accountability for their words and deeds, exercise a greater care regarding the same, and one could almost wish that in all matters where name and character are involved it should be made to apply. The present reckless manner in which men of supposed good blood and breeding are permitted to dally with the names, in a gossipy way, of good and true people is deplorable, and some check should be placed upon the same.

After all, however, Time, the great leveler, makes all things right; the really worthy cannot be injured by the tongue of slander, and its victims may well feel that life is too short to justify worrying over gad-flies.

—

The manly man who has any sense at all knows that a real gentle, gently born man will not injure or insult his fellow, and no other can. On a sudden impulse, face to face with his injurer and traducer, the injured one may be pardoned for prompt resentment, but when the conditions are favorable to calm second thought judicious kindly action should follow. Let us keep in mind the sentiment that "he that is the ruler of his own spirit is greater than he that taketh a city."

Indeed, the man who insults and attacks you as a rule is too far beneath you to be noticed. He is probably the victim of ill-breeding, unhappy associations, unbridled passions, drink, drugs or disease and as such should command your sympathy.

In your busy round of work, with your body and soul almost breaking under the weight of burdens, you may be bitten by the burly bull-dog or the sneaking cur, and your natural impulse may be to kill the dog as a possible mad dog. But, no, don't do it. If he's mad, he'll die anyway promptly; and, if he's not, the poor brute should be forgiven, for he bit only because he's built that way. In either event, dress your wounds and be more careful of your future movements, and avoid dogs.

Even though you fall a victim to real-estate sharks, grain-gamblers, ingrate employees, alleged friends (whose ideas of friend-

ship are, to work their friends, rather than to work for them; to *do* than, rather than to do for them), and perchance a kick from the hoof of the learned pedantic pedagogic, pale-gray ass who edits *The Philadelphia Journal of Hypocrisy*, don't mind, but go on sawing wood on your own wood pile and use the sawdust for sprinkling the slippery places which encompass you, that you and others may not fall and, figuratively speaking, break your bones and bruise your flesh.

—

You may have had an experience like one of two Irishmen engaged in railroad building who disturbed a pile of railroad-ties and interrupted a representative of the genus mephitis americanus, vulgarly known as the skunk. Said Mike, "Pat, what's the cat been atin?" Said Pat, "Cat, that was no cat." "What was it?" said Mike. "A skunk," says Pat. "Be Jasus, and what did he do to me?" said Mike. "*Pest* on you, shure!" says Pat. "Indade, 'twas a God's mercy thin he didn't do the other," says Mike.

And, so, if disturbed by a skunk, the only thing to do is to thank your stars it's no worse, and give it in return absolute avoidance and silence or a shotgun; but then ammunition is wasted on such poor game, and avoidance and silence are better.

No!—No! No! Let us not burden our time with trifles and our souls with grievances. We are, every one of us, good, bad, and indifferent in our daily journey, walking with steady or unsteady step directly toward an open grave—and why worry and fret over any thing? What is the laurel-wreath of fame, but a shadow? What is wealth but a bubble? Let us do our duty—the right, as God gives us to see the right—with malice towards none, with charity for all.

—

W. W. Denslow, the *Philistine* artist, some years ago evolved an etching which puts my ideas in a nutshell. I have hung an "artist proof" of the same directly over my writing-table in my sanctum, and whenever wearied, worn or worried, I let it catch my eye, and my soul becomes as blightly calm and placid as the sweetly shining surface of the sunlit sea.

"What's the use?" Yes, what's the use of noticing annoyances, the shafts of envy and jealousy, the injustice of false friends or the attacks of enemies, be they ever so aggressive; for, ere long every enemy and false friend will be in his coffin behind the hearse-horse, or else you will. In either case, you will, all, be in a position to grasp the correctness of Bliss Carman's screed in "More Songs From Vagabondia:"

Said the hearse-horse to the coffin:
"What the devil have you there?
I may trot from court to square,
Yet it neither swears nor groans,
When I jolt it over stones."
Said the coffin to the hearse-horse:
"Bones."

Said the hearse-horse to the coffin:
"What the devil have you there?
With that purple frozen stare?
Where the devil has it been,
To get that shadow grin?"
Said the coffin to the hearse-horse:
"Skin."

Said the hearse-horse to the coffin:
"What the devil have you there?
It has fingers, it has hair;
Yet, it neither kicks nor squirms
At the undertaker's terms."
Said the coffin to the hearse-horse:
"Worms."

—

Go on from day to day and take your medicine, be it ever so bitter; indulge neither in "swears nor groans," bear your burdens bravely, and, if an extra heavy one is thrown upon you, "*grin and bear it*" and make no "*kicks nor squirms*"—remember that it is better to be a burden bearer than a burden. Be happy in making others happy. Do all the good you can to as many people as you can, as often as ever you can. Live temperate lives in thought, word, and deed, and leave all else to God. Above all: don't worry, don't hurry, don't judge—what's the use?"

MY DAY

The night drops down his dark and sombre curtain,
The stage is set for some new acted play;
Why do I linger, tarrying uncertain?
Have I not lived my day?

A day made merry with good wine and laughter,
Were not the viands rare, the garlands gay?
What should I care if no encore comes after?
Have I not lived my day?

The crowd looked on and watched a puppet speaking,
Yet never knew he watched as well as they;
They could not hear, because the ropes were creaking,
That moved behind the play.

The curtain drops, and I am done with feigning,
I toss my sceptered impotence away;
No curtain-call, yet there is no complaining,
For I have lived my day.

Willard A. Wattles, in *Harper's Weekly*.

Among the Books

PITFIELD: "BACTERIOLOGY AND PARASITOLOGY"

A Compend of Bacteriology: Including Animal Parasites. By Robert L. Pitfield, M. D., pathologist to the Germantown Hospital, Philadelphia. Second edition. New York: P. Blakiston's Son & Co. 1913. Price $1.00.

This little book belongs to the Blakiston Quiz-Compend series, of whose merits and demerits we have spoken more than once in these pages. The only possible legitimate value we can accord them is for purposes of review by the student or practitioner in subjects with which he already has made himself familiar through the larger textbooks. When used in this way by the student, these compends should be under the supervision of a teacher, merely as a guide; and thus employed, we believe they fill a useful place in the minor literature of medicine.

This particular compend is a very good epitome of the subject of which it treats. And, it may be added, bacteriology is a subject which lends itself better than most others to epitomization and tabulation. It really transcends its title role and goes briefly into the matter of vaccines and bacterins and their preparation, which is an excellent extension of bacteriology into practical spheres. The illustrations are very good indeed for a book of this kind. Altogether, we can recommend it as a practical, well-digested presentation of modern bacteriology and vaccine therapy within the limitations indicated.

FORTESCUE: "MEDICAL HYDROLOGY"

Principles and Practice of Medical Hydrology: The Science of Treatment by Water and Baths. By R. Fortescue Fox, M. D., F. R. M. S. London: The University of London Press. 1913. Price $2.00.

In this modest volume, the author has assembled and blended into coherent book form the subject-matter of various lectures which he has from time to time delivered upon the topic of hydrology, especially of the Hyde lectures delivered before the Royal Society of Medicine of London.

Books constituted in this fashion have their advantages, but also their disadvantages. They always possess a certain quality of freshness and informal discussion of the subject in question, which is both vitalizing and suggestive; they represent, in fact, science in the making, progress in the flux. On the other hand, they never display that niceness of discrimination and certainty of decision that characterize the more formal textbook, factors that go so far toward investing a book with convincingness and practical value.

Both sides of the shield are well exemplified in this book of Doctor Fox's. It must be confessed that it impresses one as an interesting and instructive résumé of the subject of hydrology, rather than a practical guidebook for the clinical procedure. Perhaps, however, that is what hydrotherapy most stands in need of just at this particular time. Regarded from this point of view, it is an excellent piece of work, comprehensive, sober, sensible, illuminating. There is one very timely chapter on the question of nomenclature—a phase of the subject which undoubtedly calls for clarification. Altogether, the book —although, as we have said, it is not of the most practical nature—unquestionably fills a real place in the literature of hydrology.

LIPPINCOTT'S "INTERNATIONAL CLINICS"

International Clinics. Edited by Henry W. Cattell, A. M., M. D. Volumes III and IV, twenty-third series. 1913. Philadelphia and London: The J. B. Lippincott Company. Price, per volume, $2.00.

Both of the volumes before us are full, as the preceding ones of these series usually have been, of the most interesting and valuable reading. Perhaps we may be pardoned for picking out a few of the articles that impress us as especially good. Thus, William Seaman Bainbridge has a very timely and instructive paper, in the third volume, on the use of physical agents in the treatment of cancer and its allied conditions. These agents include Doyen's electrocoagulation, De Keating-Hart's fulguration, and the latter's thermoradiotherapy. All three of these recent modes

of treatment are very thoroughly discussed and illustrated by clinical examples. In the same volume, there is an excellent article on the treatment of pneumonia, by Norman B. Gwyn.

In volume four, we should be disposed to designate the two articles upon eugenics, by Paul E. Bowers and Carl Wettstein, respectively, as the *pièces de resistance*. The entire contents of both volumes, however, are good nourishing food, both for thought and for action.

SWANBERG: "THE INTERVERTEBRAL FORAMEN"

The Intervertebral Foramen: An Atlas and Histologic Description. By Harold Swanberg; with an Introductory Note by Harris E. Santee. With 16 original full-page plates. The Chicago Scientific Publishing Company 1913. Price $3.00.

An excellently performed piece of work in special anatomy, one that will delight the eye and heart of every enthusiastic neurologist and comparative anatomist. No doubt it will also serve a useful purpose in the instruction of students in neural anatomy. We cannot conceive (and probably the author does not expect) that it will find much of a sale among the rank and file of the profession. Its circulation will be limited to the few who are especially interested in studying or teaching minute neural anatomy. Perhaps, by the way, that is the reason for the somewhat extravagant price put on the book, which contains only a round hundred of pages. However, as Doctor Santee says in his introduction, "accurate information is always valuable, and it is such that Mr. Swanberg presents."

MACKENZIE: "DISEASES OF THE HEART"

Diseases of the Heart: By James Mackenzie, M. D., F. R. C. P., physician to the London Hospital. Third edition. London: Henry Frowde, Oxford University Press, 1913. Price $5.50.

If there is any man living who knows more or who writes better concerning the heart than Mackenzie, we have yet to make his acquaintance. The work now under review has established for itself a place in medical literature as a classic. Not exactly an archive, since that term hardly can be applied to a work that is undergoing constant revision and evolution—and, happily, we still have the distinguished author with us, giving this dynamic quality to his book—yet, unquestionably it will, eventually, pass into the permanent archives of medicine.

According to Mackenzie, advances in the knowledge of the heart during the past few years have been mainly along three lines: first, the clearer differentiation of the signs of disease, to which the electro-cardiogram has greatly contributed; second, the bearing of heart manifestations upon heart failure; and, third, the basing of treatment upon sound, scientific principles. These three aspects of advancement are fully reflected in the new edition of his book. Indeed, it may be said, that the author himself has been largely responsible for a great part of the advance process.

In this connection, we cannot refrain from expressing our approval of the practice adopted here of epitomizing the contents of each chapter at the head of the chapter. There is a splendid appendix, containing a wealth of clinical illustrations.

SCHMIDT: "MALIGNANT TUMORS OF THE ABDOMEN"

Diagnosis of the Malignant Tumors of the Abdominal Viscera: By Professor Rudolph Schmidt, professor of medicine in the University of Innsbruck. Translated by Joseph Burke, Sc. D., M. D., Buffalo, N. Y. New York: The Rebman Company, 1913. Price $4.00.

Both the translator and the publishers have put us under a great debt of gratitude in providing an authorized English version of this valuable monograph of the great German internist. Those of our readers who were fortunate to obtain and peruse a copy of the translation of the same author's treatise on Pain, which appeared in this country some years ago, will confidently expect to find in this work on abdominal tumors something far transcending the customary cut and dried treatment of the subject; and they will not be disappointed. A more thorough exposition of the pathology and symptomatology and the significance of malignant tumors, from every imaginable aspect—from the biologic to the clinical—it would be difficult to cite.

The enormous experience which Professor Schmidt's position has brought to him and the keenness of vision he has brought to bear upon that experience have enabled him to set before us a veritable treasure-box of information and

suggestion, such as one hardly can believe to have emanated from the store-house of one individual man.

The first part of the book is devoted to a treatise upon the subject of tumors; the second part is filled with well-digested clinical reports, amply and clearly exemplifying the conclusions of the first. Never was a better money's worth than that which Rebman's are offering in this splendid volume.

HARTMAN AND BRADLEY: "BOOK OF HEALTH"

First Book of Health: A Textbook for Pupils of the Lower Grades. By Carl Hartman, M. A.; and Lewis Bradley Bibb, M. D. With 122 illustrations. The World Book Company, Yonkers, N. Y. 1913. Price 35 cents.

Far and away the most sensible, breezy little book for the youngsters on this subject that we ever have seen. The whole matter is treated in a delightfully common-sense fashion and the style of the author is clear, simple, even fascinating. The tone of the book throughout is optimistic and persuasive We are sure that it will make an excellent handbook for the teaching of health and hygiene in the public schools, and we can imagine that, with such a text, the children will look eagerly forward to the lesson. We should indeed be glad to see it adopted in every school in the country, and do earnestly hope that every one of our readers will get a copy of it at once and put it in the hands of some youthful acquaintance. We are confident that the book only to be seen has to be appreciated and widely circulated, as it deserves.

TULEY: "DISEASES OF CHILDREN"

Diseases of Children: By Henry Enos Tuley, M. D., late professor of obstetrics, University of Louisville Medical Department. With 106 engravings and 3 colored plates. Second edition, revised. Saint Louis: The C. V. Mosby Company. 1913. Price $5.50.

It is rather misleading to label this as a revised edition of the same author's previous book on the diseases of children. The fact is, it is an entirely new book, written, apparently, without any reference to the former one; and, if the author and publishers will pardon the suggestion, it would better have been put out upon its own distinctive identity, without attempting to establish any family relationship with the other book at all. Really, it is just as different from the former book as day is different from night—and just as superior. Indeed, the Mosby Company may reckon it as being deservedly among its "feature" publications.

Of course, the work is not perfect—perfect books do not grow on hedgerows—nevertheless, it comes just about as near to fulfilling our own personal idea of what a textbook on pediatrics for the general practitioner ought to be as anything we have seen, at all events on this side of the Atlantic. Especially must we congratulate the author upon his sensible and rational treatment of the subjects of infant feeding and infantile intestinal infections, respectively. Indeed, so far as we are able to see, the whole subject-matter is modern and in accordance with the scientific concepts of the present day.

These things being so, it is a pity that so many—and in some instances such serious—misprints should have been allowed to creep into the text. But they are such palpable misprints that we judge they will deceive nobody; and no doubt they will be corrected in the next edition.

MAKINS: "SURGERY IN SOUTH AFRICA"

Surgical Experiences in South Africa, 1899–1900: Mainly a Study of the Effects of Injuries With Small-Calibre Bullets. By George Henry Makins, C. B., F. R. C. S. Second Edition. London: Henry Frowde. 1913. Price $3.75.

The Oxford Press has produced, in this volume, a work most interesting from several standpoints. First and foremost, it has a distinctively scientific and technical interest to military surgery and surgeons, since it contains some invaluable information, gathered by competent observers on the very field of battle and in the midst of a campaign, concerning the effects of a certain type of bullets. Second, its historical and biographical flavor gives it a decided smack of interest to the litterateur who is fond of this sort of writing; and in this role, too, the book possesses a high value. Finally, the book has a still broader range of interest, in that it contributes to the large problem of national economics, as exemplified in the cost and consequences of war under given conditions.

To the medical man, of course, the first of these factors of interest will be the strongest correlatively, it cannot well be expected to make any very wide appeal to the general practitioner. To the physician who is in the service, or who is likely at any time to see active service Makin's "Surgery" should be

invaluable. Its principal circulation doubtless will be among surgeons of the line and of those of our National Guards.

BERNSTEIN: "APPLIED PATHOLOGY"

Applied Pathology: Being a Guide to the Application of Modern Pathological Methods to Diagnosis and Treatment. By Julius M. Bernstein, M. B., D. P. H. Illustrated with 5 colored plates and 46 drawings. London: University of London Press. 1913. Price $3.75.

Doctor Bernstein has done something of the same sort for pathology that Treves years ago did for anatomy. Treves furnished the connecting link between descriptive anatomy and surgical practice; Bernstein here furnishes a similar link between the science of pathology and the practice of medicine. It is a timely work.

It may well be admitted here that, as a rule, the general practitioner knows more with his head about the fruits of modern research and ingenuity than he practices with his hands: that is to say, his aquaintance with the value of certain diagnostic and therapeutic measures, and his appreciation of the same is considerably in advance of his familiarity with the practical execution of those measures.

Books of the character of this one by Bernstein are sorely needed to bridge the awkward gap. Bernstein has taken of the mass of pathological knowledge—such of it as is usable—and has cast it into bullets with which to load the guns of the man on the firing-line. We recommend that every man on the firing-line will procure a copy of this work.

THOMSON AND MILES: "MANUAL OF SURGERY"

Manual of Surgery: By Alexis Thomson, professor of surgery, University of Edinburg; and Alexander Miles, Surgeon, Edinburg Royal Infirmary. Volume III. Second edition. With 255 illustrations. London: Henry Frowde. Price $3.50.

This little series of books belongs to a class that is peculiarly popular, and correspondingly prevalent, in English medical literature. We always have looked upon them as most excellent things, covering the entire subject of which they treat as they do, in a concise, summary fashion for the clinical use of the general practitioner. They constitute a style that might profitably be followed in this country, especially in the field of surgery, not in the place of, but in addition to the large and exhaustive works on the various surgical specialties, and the equally voluminous encyclopedic "systems" with which Americans surgical literature is burdened.

The essential thing about the book under review is that it is comprehensive and practical, furnishing the general practitioner with real help and enabling him to do his own surgical work, instead of exploiting elaborate surgical specialties and specialists; and it is adequate to all his ordinary needs. The present volume, as its subtitle indicates, deals wholly with operative surgery. The illustrations are splendidly done.

TALBOT: "GINGIVITIS AND PYORRHŒA"

Interstitial Gingivitis and Pyorrhoea Alveolaris: By Eugene S. Talbot, M. S., D. D. S., M. D. With 102 illustrations. Toledo, Ohio: The Ransom and Randolph Company. 1913.

Interstitial gingivitis is the bugbear of the dentist. Up to the present time, as Doctor Talbot points out in his preface, it has been persistently taught that his disease of the gums and alveolar processes is of a pyorrheic, or infectious origin; and virtually all experiments and treatments have been made upon this basis. But, there is one notable exception —the author of this book.

For the last thirty-five years Talbot has been contending that the prime morbid element in gingivitis is a metabolic disturbance from within that registers itself in the alveolar process as an end-organ, and that the bacterial infection is a secondary, an incidental, one might almost say accidental, denouement, which may or may not come about later in the disease-process. During all these years Doctor Talbot has been working out his theory by means of actual research and experimentation; and with every year his mass of data and evidence has accumulated, until it now would seem to be irresistible and it begins to look as though the dental and medical professions would have to reform radically their ideas on this subject.

The book under review may be said to be a summarized presentation of the author's findings, and it constitutes, indeed, a powerful brief for his own position. However, it is, much more than this. This volume constitutes a practical, clinical exposition of the subject of gingivitis, including treatment, for the use of the practitioner.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 6005.—"Wanted: The Best Remedy for Tuberculosis." H. W. H., Michigan, writes us, asking: "Have you a serum for tuberculosis? If not, what is the best remedy?"

Now, doctor, before we can venture an answer, we must request you to give us a clear idea of what conditions you have to contend with in any particular case. With such information, we may be able to offer some definite therapeutic suggestions. For, you must understand, medication, to be at all effective, must be modified to meet individual requirements.

As to tuberculin, although undoubtedly effective when properly given, it must not be administered in the acute or more advanced cases, or where the temperature remains steadily high—above 100 degrees. In all mixed infections and most of the chronic cases that we have to deal with, tuberculin is useless; however, appropriate stock bacterins, or, better, autogenous ones, may be expected to produce desirable results. In cases of secondary infection, already established, an autogenous bacterin will rapidly reduce fever, cough, night sweats, and so on, and enable the patient better to overcome the tuberculous infection.

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QUERY 6006.—"Seborrhea of the Scalp." R. R. S., Missouri, writes: "Tell me what to do for a bad case of seborrhea in a girl who has an extra-heavy head of hair. Her scalp seems to be very dry, the scaly condition in places extending beyond the edge of the hair."

Always in seborrhea, local and systemic treatment should be instituted conjointly, the latter of course being based upon the condition of the body-chemistry, which first must be definitely ascertained. Hence, we suggest that you examine the patient's urine carefully, or, otherwise, forward a specimen to our pathologist. In the meantime, these measures may be adopted:

Wash the head with a good tar-soap or carbenzol soap, massaging the scalp with the suds thoroughly; then rinse with clean warm water. When the hair is dry, or nearly so, brush the scalp with a 1 : 1000 solution of mercury bichloride. The next morning rub in unguentum aluminis, phenoli et ichthyoli cum resina. If for any reason your patient objects to the use of an ointment, try this lotion: Vinegar of cantharides, 1-2 grain; mercury bichloride, 1 grain; spirit of camphor, 3 drops; water, 1 ounce.

By way of internal treatment, the pill cascara compound (Hinkle) may be taken at bedtime. Besides, prescribe granules consisting of washed sulphur, gr. 1-32; strychnine arsenate, gr. 1-128; podophyllin, gr. 1-64; collinsonoid, gr. 1-128; berberine, gr. 1-128; one or two of these to be taken after meals. In some instances, the triple arsenates with nuclein may be substituted, with advantage.

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QUERY 6007.—"Nervous Eructation." P.S., Iowa, forwards urine for microscopical examination, the amount being, at times normal, at other times excessive. The patient is very nervous and has been troubled with acute constipation for years. An enormous amount of gas, forming in the stomach, is eructated, the patient expresses fear that her "heart will eventually be blown up." No regulation of diet influences or relieves in any degree the enormous eructations. Cancer or ulcer of stomach has been suspected, but after careful research the Mayo brothers eliminated both. Their diagnosis was, nervous indigestion.

Physical examination shows adventitious heart-sounds; lungs are fairly normal, bronchial harshness in breathing; stomach is enlarged, as also is the liver. The patient is

emaciated, although this seems to be a characteristic of the family; in proportion to height, she is very much under weight; face, cachectic; skin, very dry and parchment-like; tongue, red. Our correspondent suspects intestinal stricture "somewhere," basing his opinion on the fact that even prolonged abstinence from food does not reduce the belching.

The report, of the pathologist, upon the urine reveals serious renal involvement (parenchymatous nephritis); hence, it would seem that this woman is in a more serious condition than the eminent Rochester surgeons have suspected.

Nervous belching (eructatia nervosa) is observed in hysteric women and neurasthenics, belching occurring at short intervals and being entirely independent of the character or amount of food ingested. The belching is noisy, as a rule, and may continue for a considerable period or occur in paroxysms.

The gas consists of atmospheric air "swallowed," or aspirated, into the stomach. In certain conditions, the stomach may act as an elastic sac and aspirate air without any effort at swallowing. Some of the air probably comes from the esophagus and has been swallowed previous to the act of belching. The belching may also be associated with acute or chronic gastritis or with fermentative processes in the stomach. Bear in mind that in fermentative processes the gas often is malodorous. A careful study of symptoms, gastric analysis, and the fermentation test enable us to make a definite diagnosis. So, under the circumstances, we should be inclined to give a Boas or Ewald test breakfast and have the stomach contents examined.

There are various nervous affections of the stomach. Such gastric disturbances have frequently a reflex origin, depending upon disease in remote parts of the body, and occur most frequently in women from puberty to the menopause; quite frequently at the latter period. Unfortunately, doctor, you do not state the age of your patient or give us any idea of her temperament, surroundings, and so on.

You are, of course, familiar with the symptomatology of neurasthenia gastrica. The patient usually complains of a feeling of "fulness" after eating; there is mental depression; the quantity and quality of the food makes little difference in the symptoms. Occasionally, the most indigestible material can be eaten with impunity; again, the most digestible food may produce symptoms. Not infrequently pain or discomfort and belching occur when the stomach is empty. Nausea or vomiting may be present.

Further, the intestines are tense upon the accumulation of gas (voided later by the rectum) and the bowels are constipated, the feces passed appearing in narrow cylindroids or small balls. Not infrequently a sensitive point will be felt below the ensiform bone, and another near the navel, just to the left. Patients suffering from uncomplicated neurasthenia gastrica do not emaciate, unless insomnia is a concomitant. Under those circumstances, they may lose considerable weight.

If this woman has suffered for years, and no tumor can be observed, while gastric analysis fails to reveal lactic acid, an absence of free hydrochloric acid and of the Boaz-Oppler bacilli, we may almost certainly exclude cancer. The Abderhalden test might advantageously be made.

As a rule in nervous dyspepsia, there occur sudden changes in the patient's condition. She (if a woman) may be entirely well for a few days, and then all the symptoms may present in a marked form. Gastric secretion may be normal or variable in the same patient at different times.

Very remarkable results have been secured in such cases by the administration of juglandoid, papain, and strychnine arsenate, or, also, the latter drug with capsicum and gentian, half an hour before food; betain-pepsin with meals (if HCl is deficient) just after eating, and bilein and pancreatin an hour later.

Iron and manganese in defibrinated bovine blood, ferrosomatose or similar preparation may be given three times daily, to improve nutrition. The bowels should be flushed with warm decinormal salt solution; and the faradic current applied to the spine and gastric area two or three times a week. Where the condition is of reflex origin and the causative condition can be ascertained, this, of course, must be treated.

In this case, particular attention must be paid to the kidneys. Examine the spine carefully for anesthetic or hyperesthetic areas or for subluxations.

The urine and stomach contents should be examined minutely every few days.

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QUERY 6008.—"Herpes Zoster." P. V., Canada, has under treatment a patient recovering from a very bad attack of "shingles;"

the eruption has subsided, but left the patient in a poor physical condition.

The patient, a man about fifty-two years of age, is a university professor of pronounced nervous disposition. His mother and two sisters died of tuberculosis of the lungs, and he at the present time seems to be a fit subject for the same malady, although his lungs appear to be in fairly good condition.

It was the doctor's intention to place this patient on the triple arsenates with nuclein, but his attention was drawn to this textbook statement: "The medical use of arsenicum has been suggested as a cause for herpes zoster."

Now our correspondent desires to know (1) what we think of such a statement; (2) if we think the use of arsenic would tend to increase rather than decrease the trouble; (3) if arsenic is contraindicated, what could be given the patient to "build him up." He adds, by way of compliments:

"I have been a member of the CLINICAL MEDICINE "family" for several years, and the more I read, the more I appreciate the journal; in fact, on account of the limited time I have for general reading, CLINICAL MEDICINE is the only medical journal I read from cover to cover."

Under certain conditions, the administration of arsenic may produce an eruption which can be differentiated from herpes zoster only with difficulty; for that matter, arsenical eruptions may simulate practically any acute dermatosis. Herpes zoster occurs at all ages and in both sexes. It is not at all uncommon after forty, and is rarely seen in early infantile life. It is observed more frequently in the spring and late autumn, and during damp and changeable weather.

Most pathologists contend that the disease is a descending acute neuritis and provoked by various causes, having its beginning most frequently in the ganglionic system—in the cervical or spinal ganglia—finally reaching the terminal branches, with the production of the cutaneous phenomena.

It is more than probable that many of the zoster-like eruptions, particularly the recurrent forms, are not examples of true zoster, but eruptions due to a systemic disease of infectious origin. It must not be forgotten that the disease is occasionally observed in the epidemic form. Hartzell and others point out that anything which may bring about an irritable or inflamed state of the gasserian ganglia, spinal ganglia, nerve-tract or peripheral branches may be responsible for the eruption.

Under the circumstances, it is not difficult to understand that arsenic might prove the causative irritant. Atmospheric changes, exposure to cold and wet, sudden checking of the perspiration, also traumatism, peripheral nerve irritation, intestinal parasites, malaria, and pulmonary disease have all been mentioned as causative.

The treatment outlined herewith proves promptly efficacious in the majority of cases.

Calomel (or blue mass and soda) and podophyllin in full dosage at night, followed by a copious laxative saline draught next morning. The arsenates (preferably with nuclein) three times daily after meals. Zinc phosphide (gr. 1-64) as an alternate. The sulphocarbolates should be given to secure and maintain intestinal cleanliness. The mercurial may be repeated on the third, sixth, and ninth evenings. The diet should be light; galactenzyme in good dosage will prove useful.

The lesions may be dusted with a mildly astringent powder. Campho-menthol will relieve the stinging pain or pruritus. To prevent pitting, paint the vesicles (unbroken or carefully drained) with benzoinated collodion. If there is a tendency to suppuration, calcium sulphide will, of course, be indicated; push to saturation. As a subsequent tonic, we recommend the arsenates of iron, quinine and strychnine, three times daily. If the patient has received arsenic in any form, its further administration would, of course, be undesirable. Nuclein, brucine, and the phosphates might, under such circumstances, be given with advantage.

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QUERY 6009.—"Pronounced Icterus of Obscure Origin." T. N. C., Pennsylvania, has as a patient, a man of fifty-two years, and a writer by profession, who up to four months ago enjoyed the very best of health. He gives a clean history. At the time named, jaundice began to show, and in about one week he became a dark-copper color. No other signs of being ill, subjective or objective, developed, but since then he has lost about 40 pounds, under a restricted diet advised by other physicians. The perspiration leaves no stains on the clothing, and the stools have always been natural in color. He takes no alcoholic drink, but has been smoking cigarettes very much. The present treatment consists in daily flushing of the colon; besides (just as an experiment) a free diet and quinine sulphate, 2 grains, every two hours.

In view of our limited knowledge of basal pathological conditions, as here described, we cannot venture a definite opinion as to the

cause of the pronounced icterus in this 52-year-old patient; and we suggest that specimens of blood, urine, and feces be sent to our pathologist, for examination. One thing, doctor, can you definitely exclude Addison's disease? However, the absence of "colic" and of acholic stools, together with the marked loss of weight leads us to think possibly you may have to do with distoma hepaticum. Palpation may reveal a small tumor (usually situated about three-finger-breadths to the right of the median line), and percussion show a diminished hepatic area. It is decidedly peculiar that there has been no pain or gastric disturbance.

You do not say anything about the man's appetite. The possibility of partial absorption, by swelling, of the bile-duct mucosa and the formation of mucous plugs must be considered. As a rule, catarrhal jaundice may be diagnosticated by the fact that there is no pronounced pain or enlargement of the liver, nor discoloration of the feces. The condition may persist for weeks or months.

It is quite evident that you have not to do with an acute infectious jaundice (Weil's disease), and, as there is no history of colic, it is reasonable to exclude cholelithiasis. Hepatitis, syphilis of the liver, duodenal ulcer may all cause jaundice. But, after all is said, you must not overlook the very strong probability of carcinoma of the liver, which, considering the patient's age and loss of weight, is perhaps the most likely diagnosis of all. An Abderhalden test would be advisable.

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QUERY 6010.—"Economy in the Use of Alkaloids, and Their Dosage." J. A. S., Tennessee, asks for explicit directions for dosing aconitine and digitalin granules in pneumonia, both of children and adults; adding, "Were the alkaloids not so high in price I should prescribe them exclusively." In answer, let us repeat what we have pointed out in these pages time and again, namely:

The small dose at frequent intervals to effect, remedial or physiologic, that is the one safe rule to follow in administering potent active principles—indeed, any and all remedial agents of powerful physiologic properties.

When giving to children such potent remedies as aconitine, gelsemoid, digitalin, and veratrine, you may elect to adopt Shaller's rule, which runs: "one granule for each year of the child's age, and one 'for the glass' in 24 teaspoonfuls of water," or else follow our own procedure, namely: for each year of the child's age dissolve one granule in 8 teaspoonfuls (or 12, according to the conditions present), giving one teaspoonful every fifteen, thirty or sixty minutes, to effect."

A child one year of age or older, with a temperature of 102° F. and having pulmonary congestion, certainly may receive 1-8 of a granule of aconitine half-hourly or hourly for six or eight doses; that is, one granule in three to six hours as a maximum apportionment. Under certain circumstances, though, we should not hesitate to give 1-4 of a granule half-hourly for four doses, and thereafter a smaller quantity at intervals to effect—meaning, reduction of temperature or evidences of drug-sufficiency, as shown by the physiologic signs.

Of course, very young children can not say whether their throat feels dry, their tongue and lips tingle, and so on; consequently we must not dispense for them more than a known-to-be-safe quantity of aconitine (granules or solution). For a child of a year or under, this would mean two granules. Very sick infants should be seen again within twelve to twenty-four hours, so that it is quite unnecessary to leave with the family an excessive amount of the drug.

For children, aconitine should always be dispensed in solution; and, in this connection, we would call attention to the superior efficacy of the defervescent compound (aconitine, digitalin, veratrine) in the treatment of pneumonia. The same rule as to dosage applies, of course. A strong child of 5 years or older, during the early stages of pneumonia may receive the larger dose—1-4 or even 1-3 of a granule half-hourly or hourly for a time; after that smaller dosage, to maintain the effect.

Now, doctor, as to your statement that the alkaloids are so expensive, you cannot afford to use them exclusively. Now, really, doctor, the alkaloidal and the other active principles are the cheapest and the most dependable drugs obtainable, if of standard guaranteed purity; for, not only do they produce definite results, but they are readily taken, even by young children. This is a consideration of great importance, and in these days the man who simplifies matters and *does things gets the practice.* For this reason, the alkaloidal products are success-makers.

To illustrate. You are called, we will say, to treat a child sick with pneumonia. Now see the beauty of the system: You will give your patient 1-10 of a grain of calomel and 1-64 of a grain of podophyllin every half hour for four or six doses, and follow the last dose with a laxative-saline draught; at the same

time you will give the defervescent compound or aconitine and bryonin, in solution. The total cost of these medicines is less than 5 cents; and even if you add iodized calcium or some other indicated drug you hardly can spend more than 20 cents in controlling the disease-process. Subsequent medication may cost from 25 to 50 cents additional, but we are quite positive that in our own practice scores of pneumonia-patients have been cured, and the medicines have not cost us fifty cents, all told. Other physicians all over the country report similar experiences.

Once more: You have, let us say, a patient suffering from intestinal fermentation. You dispense half a dozen calomel, podophyllin and bilein compound and order two to be taken every other night; the cost of these 6 tablets to you (even if you buy only by the hundred) is the trifle of 1 1-2 cents. You also give, say, 25 tablets of the combined sulphocarbolates, which cost you 32 cents for 100—or 8 cents for the 25 tablets. Thus, your medicine, which will make a pronounced impression and thoroughly satisfy your patient, will have cost you 10 cents at the most. And if you buy in larger lots your dispensing-expense will even be materially less.

We assure you, doctor, that you certainly have arrived at an erroneous conclusion. The active principles not only are the most satisfactory and scientific, but are the least expensive remedial agents you possibly can dispense in your practice; not to mention here the prestige they compel in your community, besides other obvious advantages.

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QUERY 6011.—"Eczema Manuum." P. W. F., New York, writes as follows: "I have a very stubborn case of dry eczema of hands and fingers. The condition is circumscribed, no area being over one-half inch in diameter; there is no weeping or itching; unless the skin is kept well oiled, fissures appear, which are very sore. All my treatment, both internal and local, is without effect. The condition has existed more or less for four years. The patient, a man thirty-eight years of age, apparently is perfectly well in every other particular."

It is a little difficult to offer specific advice, for the simple reason that eczema is a protean disease and that remedies proving effective in one case may fail entirely in another.

Sometimes the patient's occupation is the exciting factor, as in the case of people having their hands in water a great deal, who are particularly liable to eczema manuum.

In the dry types, which are especially observed on the palmar aspects, salicylic acid is one of the best remedies; it should be applied in an ointment, 20 to 30 grains to the ounce, with petrolatum and lanolin as base. Calomel or white-precipitate ointments at times are useful; also carbenzol and ichthyol may prove promptly curative. The various applications should be tried tentatively, over a small spot at first. If there is epidermic thickening and pain over the affected area, try salicylated collodion, of 5-percent strength, applying two or three coats and repeating twice daily for two or three days. Then intermit the treatments and watch progress. If necessary, repeat the procedure from time to time. In the milder form of fissured eczema the following constitutes an excellent application: tincture of benzoin, 1-2 dram; glycerin, 2 1-2 drams; water, 5 drams; after standing a while, filter. Rub this lotion thoroughly into affected skin.

However, in order to secure results, the correct local and internal treatment must be instituted conjointly. It is essential, of course, to eliminate freely and maintain "therapeutic cleanliness" of the intestine; moreover, the excretion of solids must be kept up to standard and a normal output of urea maintained. Nearly all eczematous individuals suffer from suboxidation.

Irisoid, alnuoid, and boldine may be pushed to effect, the triple arsenates, arsenic sulphide or liquor arsenii compositus (Barclay) usually are indicated, being employed according to circumstances.

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QUERY 6012.—"Albinismus or Vitiligo?" C. W. C., Kansas, wants to know whether there is any effective treatment?

No, there is no known cure for this condition. True albinism, we need not tell you, is a congenital absence, either partial or complete, of the pigment normally present in the hair, skin, and eyes. Partial albinism, sometimes termed "leukoderma," as a rule involves either the skin alone or both the skin and hair, and is identical in its symptomatology with vitiligo, excepting that it is congenital and lacks the increased pigmentation of the skin bordering the lesions as observed in the latter affection.

Thus, the question arises whether your case is one of albinismus ("albinism") or perhaps of vitiligo (*same* as leukoderma, congenital or acquired).

We hardly should think that a true albino, twenty years old, as is the farmer's daughter in question, would seek treatment. As stated, that condition is permanent, although

in exceptional instances the red coloration of the iris may at times disappear. Stelwagon, with other authorities, dismisses the subject of treatment with one short paragraph: "As may be inferred, albinism can not be lessened or influenced by treatment. It is, in fact, without a remedy."

In this connection, we would call your attention to Query 5846, in which the treatment of vitiligo is outlined. If you desire further information and will give us a clear idea of conditions presenting themselves, we may, possibly, be able to advise you more intelligently.

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QUERY 6013.—"Chronic Diffuse Nephritis." C. R. B., Missouri, desires therapeutic suggestions. His patient is a young man presenting all the symptoms of ateriosclerosis and a blood pressure of 200 mm.

The doctor writes: In a former letter you stated that my patient might have acidemia. I have carefully tested his urine and find the specific gravity a little above 1020. The total amount passed in twenty-four hours was 2200 Cc. The radial artery is hard; blood pressure, 180. Three of his grandparents lived to be old—to eighty and ninety years. One grandmother living now is ninety-five years old. His father and mother are living and healthy. This man had measles when four years old and has never been very stout since; his usual weight being between 140 to 150 pounds, with a height of 5 feet 7 inches. He has passed too much urine for two or three years. His parents tell me that after the measles his feet were swollen for a year. Heart seems to be all right. He has had headaches for several years. Otherwise he looks to be in very good health. I have had him on veratrine, 1-64 grain three times a day; liquor arsenii compound, 5 drops three times a day; and Carlsbad salt each morning. He gives no specific history; does not drink or use tobacco."

We are inclined to believe that your patient suffers from diffuse nephritis. As the disease progresses, the heart hypertrophies, arterial tension increases, and edema, which may have been quite pronounced, disappears. The patient voids a large quantity of light-colored urine of low specific gravity, containing a small amount of urea and possibly hyaline casts.

There is a tendency at the present time to discard the terms "chronic parenchymatous" and "chronic interstitial," as applied to nephritides; "chronic nephritis with uremia" being substituted for "chronic parenchymatous nephritis."

Autopsy findings show that in all cases of chronic nephritis there is more or less evidence of parenchymatous as well as of interstitial changes; the preponderance of the pathologic change being either in the parenchyma or the stroma. A comparison of the postmortem findings with the symptoms observed usually proves that if dropsy accompanies the condition it is of the parenchymatous, while of the interstitial type if accompanied by uremia.

You are aware, of course, doctor, that the interstitial form frequently (perhaps usually) exists for years without attracting very much attention. During the first stage—that of compensation—the symptoms of arterial hypertension usually observed are, principally, swollen temporal arteries, slight attacks of epistaxis, ringing noises in the ears, and vertigo.

Uremic autotoxemia is evidenced by headache, not readily relieved by drugs, but disappearing with rest and proper dieting. The patient frequently has cramps in the ankles at night; also, sudden sensations of cold—goose-flesh or formication. During the second, or cardiac, stage, there is marked increase of arterial tension; while not infrequently complications set in which may prove fatal. In the third, or uremic, stage, any or all of the symptoms observed in the first and second stages present, together with nausea, vomiting, and diarrhea; or, in the more marked cases, dry tongue, convulsions, stupor or delirium, and coma.

Under the circumstances, we should place this patient upon an absolute milk diet—2 1-2 to 3 quarts a day—instructing him to swallow it slowly, commingling each mouthful well with saliva. Give very small doses of veratrine, say, 1-500 grain in solution, three times a day. Continue the morning laxative saline. Also, order him to take three or four tablets of a virile culture of the Bulgarian lactic bacillus, crushed in the mouth and swallowed with the milk, every three or four hours.

Epsom-salt sponge-baths nearly always are beneficial. The patient should rest absolutely several hours each day. As conditions improve and the arterial tension is reduced, you may add to the diet a little clam-bouillon, fresh fish, breast of chicken, asparagus, celery (stewed), and well-cooked cereals.

This promises to be an interesting case, and we trust you will keep careful clinical notes and report results.